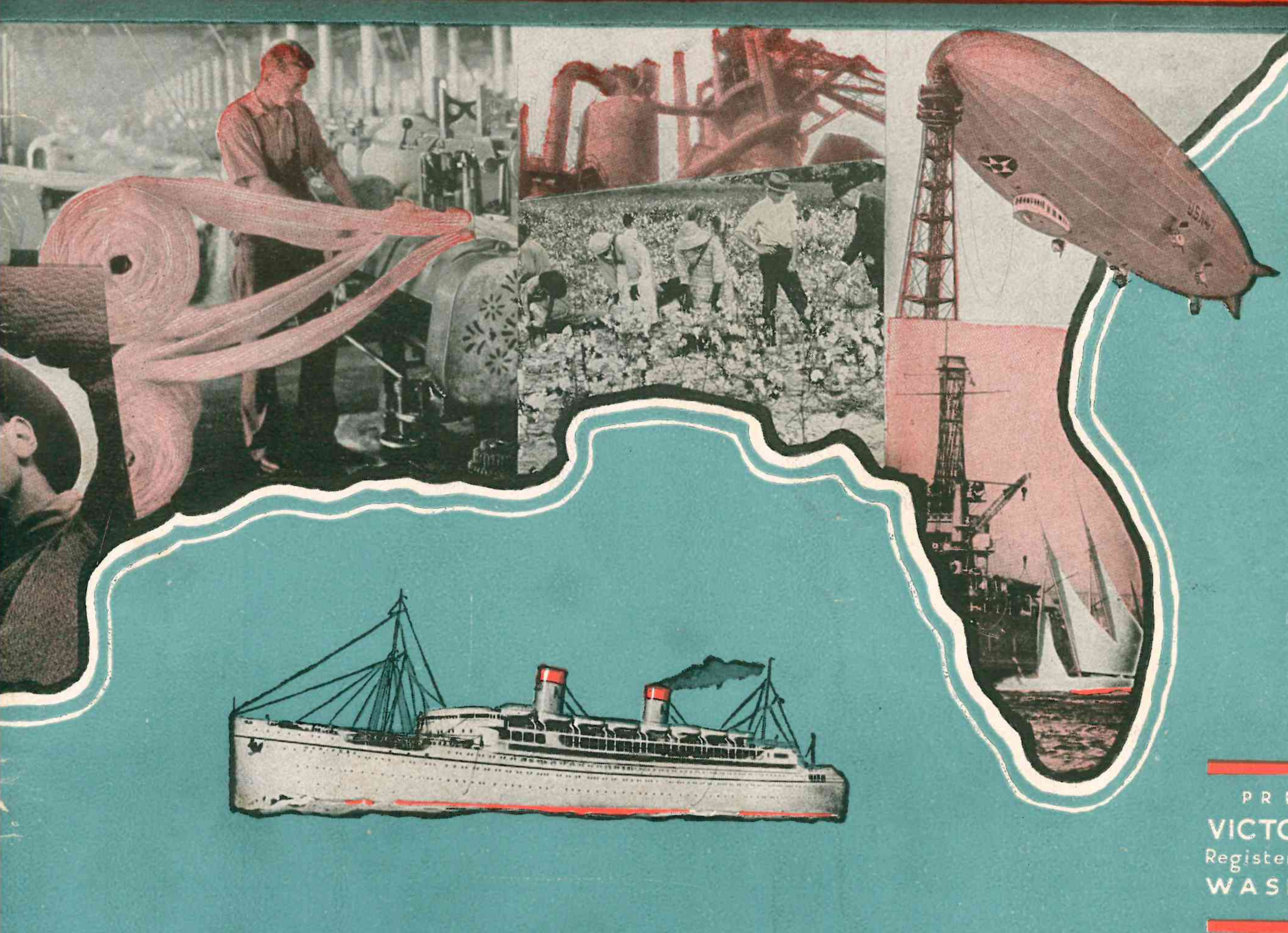
PATENT PROTECTION

« A BOOK FOR INVENTORS »



PREPARED BY
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WASHINGTON, D.C.

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A BOOKLET
OF INTERESTING INFORMATION
ABOUT INVENTIONS
AND HOW TO PROTECT THEM

Presented to

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by

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IMPORTANT
•
If you have an idea see Page 5 . . . it tells you exactly what to do to save time

ESTABLISHED 1898

A Patent is Issued by the United States Government

THE UNITED STATES PATENT OFFICE is the world's largest Treasure House of Ideas

FEW people realize what a large and complicated human mechanism our Patent Office really is . . . perhaps because so few recognize how broad and ramified is the field of invention.

There are sixty-five main divisions for the examining of Patent Applications. Each division handles one or more kinds or types of inventions and is headed by a Primary Examiner who is aided by six to ten Assistant Examiners. Their headquarters are in huge rooms, filled with file sections containing copies of all patents granted in past years. There are, all told, over six hundred Examiners. About fifteen of them are women . . . but contrary to what you might expect, all of them do not deal exclusively with inventions for the use of women.

At the head of the Patent Office's 1200 highly skilled people is a Commissioner of Patents, who is appointed by the President of the United States. Assisting him is his staff of three Assistant Commissioners who are also appointed by the President and confirmed by the Senate.

All this great organization has grown from what amounted to a one-man business back in 1802 when the first Commissioner, or Superintendent as he was then known, was appointed by President Thomas Jefferson.

An interesting and heroic incident is said to have taken place during the War of 1812. When the British Army appeared suddenly and unexpectedly before Washington, the city was thrown into a wild and unreasoning panic. Crowds of frightened people jammed the dirt roads leading out of the Capital. The President and his Cabinet left Washington and only a few public officials remained at their posts. Among these was the Superintendent of the United States Patent Office. The British trained their cannon on the building. Whereupon, the Superintendent rushed out into the street and up almost to the muzzles of the guns, crying, "Shoot me if you must, but spare this treasure house of ideas!" So impressed were the British commanders by this display of bravery and devotion that, though they burned the White House and a part of the Capitol, they spared the building which contained the patent records and models.

The Patent Office is one of the few departments of the United States Government which has shown Uncle Sam a consistent profit. In the nature of its organization and the efficiency of its work, it compares favorably with many of the great industrial or commercial concerns for which our country is famous.

Why . . . Patent Protection is Important . . .

PATENTS *and* PROFITS

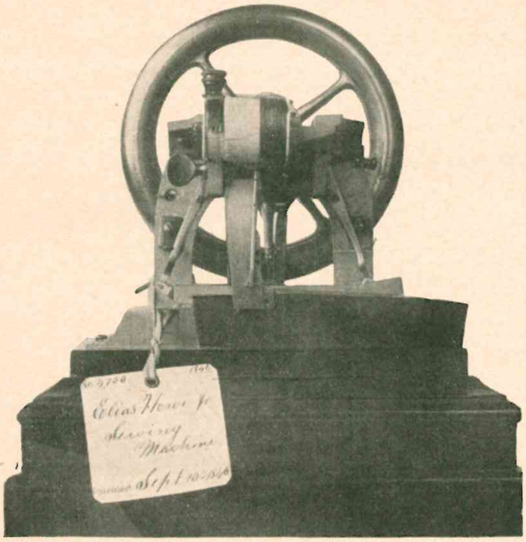
THE Constitution of the United States says that Congress shall have the power "to promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."

Based upon that section in the Constitution, written nearly one hundred and fifty years ago, this country has developed the fairest and most liberal Patent Laws of any nation on earth. And to a large extent it is because of our typically American system of Patent Laws that we have become the most inventive, progressive and prosperous nation the world has ever known.

As the makers of our Constitution intended, our Patent Laws give the inventor an incentive—a reason—to invent; to develop his ideas for profit to himself and benefit to his fellow men.

Without our present system of Patent Laws, which are designed to give the inventor every ounce of protection and benefit that he deserves, it is safe to say that this country would be very different from the one which we know today. In fact it would be fair to assume that our industrial progress would have been no greater than that of other countries and that many of the thousands upon thousands of mechanical devices, both simple and complex, which we see on every hand, would not exist.

For without our Patent Laws, to give you the EXCLUSIVE right to your invention, what incentive is there to invent? Basic in all human endeavor is the instinctive desire for reward in one form or another. The far-sighted men who founded this nation and wrote our Constitution realized this simple fact. This is why they placed MORE IMPORTANCE on the rights of an inventor than ANY NATION had done before or has done since.



A model of the sewing machine patented by Elias Howe in 1846.

So a Patent which is issued to an inventor by our United States Patent Office today does just what the founders of this country intended it should do: It gives the inventor the *exclusive right to make, use or sell the thing he has invented,* for a limited time. In the case of all Patents that period of time is seventeen years (except Design Patents) which we will explain later on in this book.

A Patent makes your invention YOURS in the eyes of the law, as well as in your own eyes. With a Patent you have a monopoly on your invention for a definite period of years. You can prevent others from using your invention; you have the exclusive right to manufacture it yourself and sell it to others; you can sell others the right to make it—paying you either a cash sum or through royalties for the privilege. In a word, once you have a Patent, you can do with your invention as you will.

WITHOUT a Patent, just the opposite is true. The Patent Laws were made to protect the inventor—to insure for him a "square deal." But if he fails to take advantage of the protection which the laws make possible, then he has no protection at all. For without a Patent, there is nothing to prevent anyone from making, using or selling the thing you have invented. In other words, lacking a Patent, you have NO EXCLUSIVE RIGHT to your invention; therefore no monopoly and consequently much less or maybe no chance for any worth-while measure of profit.

If an invention is good—if it has merit—if it will save time, save labor, make money or give pleasure or satisfaction—it should by all means, be protected by a United States Patent. With a Patent, such an invention can prove very valuable; it can be the means of profit, maybe much profit. Without such protection, it virtually becomes public property, from which the inventor must take his chances along with the next fellow in getting a reward.

So it is almost as true as two and two make four that in inventive matters, before there can be Profits there must be Patents.

Read this page carefully

Establish Your Right to Your Invention NOW!

The Word NOW is Important

INVENTIVE history is filled with examples of men with practical inventions who, failing to secure Patents and put their ideas to work, saw those same ideas patented and used by other men.

There is a case on record of a farmer who invented a barbed wire fence, talked about taking out a Patent, but never did. Later another and more enterprising inventor made application for a Patent, secured it, and reaped a big share of the great financial rewards which the wide-spread use of this fence made possible.

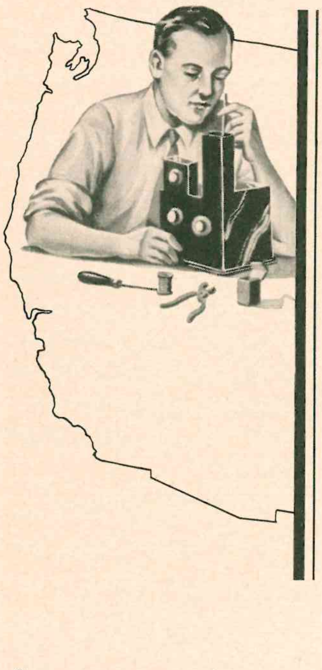
The story of Alexander Graham Bell might have been very different had he delayed unnecessarily about his application for a Patent, because Gray, another inventor, filed application on a similar device soon after Bell did, and a man by name of Dolbear actually patented a telephone apparatus which the courts held to be an infringement of Bell's Patent. The point we want to stress is that Bell had both an inventive and a practical mind. He established his rights to his invention as early as possible and he secured a strong, basic Patent. As a consequence he later reaped a large reward both financially and in public recognition.

So it isn't always enough to be the first to THINK of a device or mechanical improvement. Frequently, in fact usually, it is the man who ACTS first who receives protection from the United States Government in the form of a Patent.

If you have an idea for a good invention, or what appears to be a good invention, bear in mind that there is usually *no time like the present* for taking steps to secure protection of your rights.

Nor should an inventor make the mistake of delaying his application while endeavoring to make minor improvements which have no bearing upon the basic principles involved in the device. Few inventions are mechanically perfect, or even near it, when first patented. In your desire to approach perfection, don't overlook the important matter of PROTECTION for your basic invention.

Inventors Thousands of Miles Apart May be Working on the Same Idea



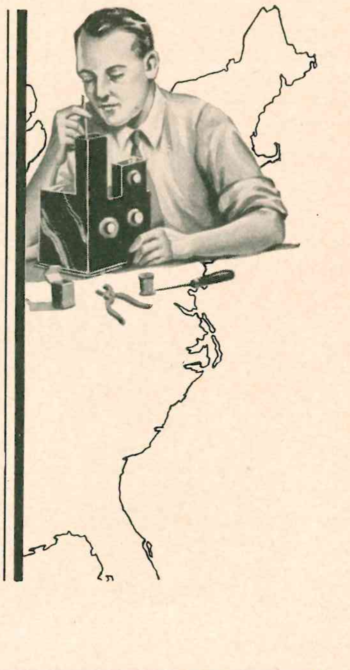
There is another reason—a big one—why the word NOW is important in Patent matters. It is this: Two or more inventors may be working on the same or substantially the same idea without each other's knowledge. They may live thousands of miles apart; yet, they may both make application for a patent at about the same time.

When this happens, THE BURDEN OF PROVING FIRST INVENTION RESTS ON THE MAN WHO FILED HIS APPLICATION LAST.

If the man who filed his application last can prove that he was really the FIRST inventor, well and good. But often that is no easy matter. Inventors in the past have been notoriously careless about evidence regarding the conception and completion of their inventions, and frequently they haven't realized its importance.

Where a good invention is concerned the best policy ALWAYS is the SAFEST policy—and that generally means avoiding loss of time in getting a patent application filed, or at least in taking steps in that direction.

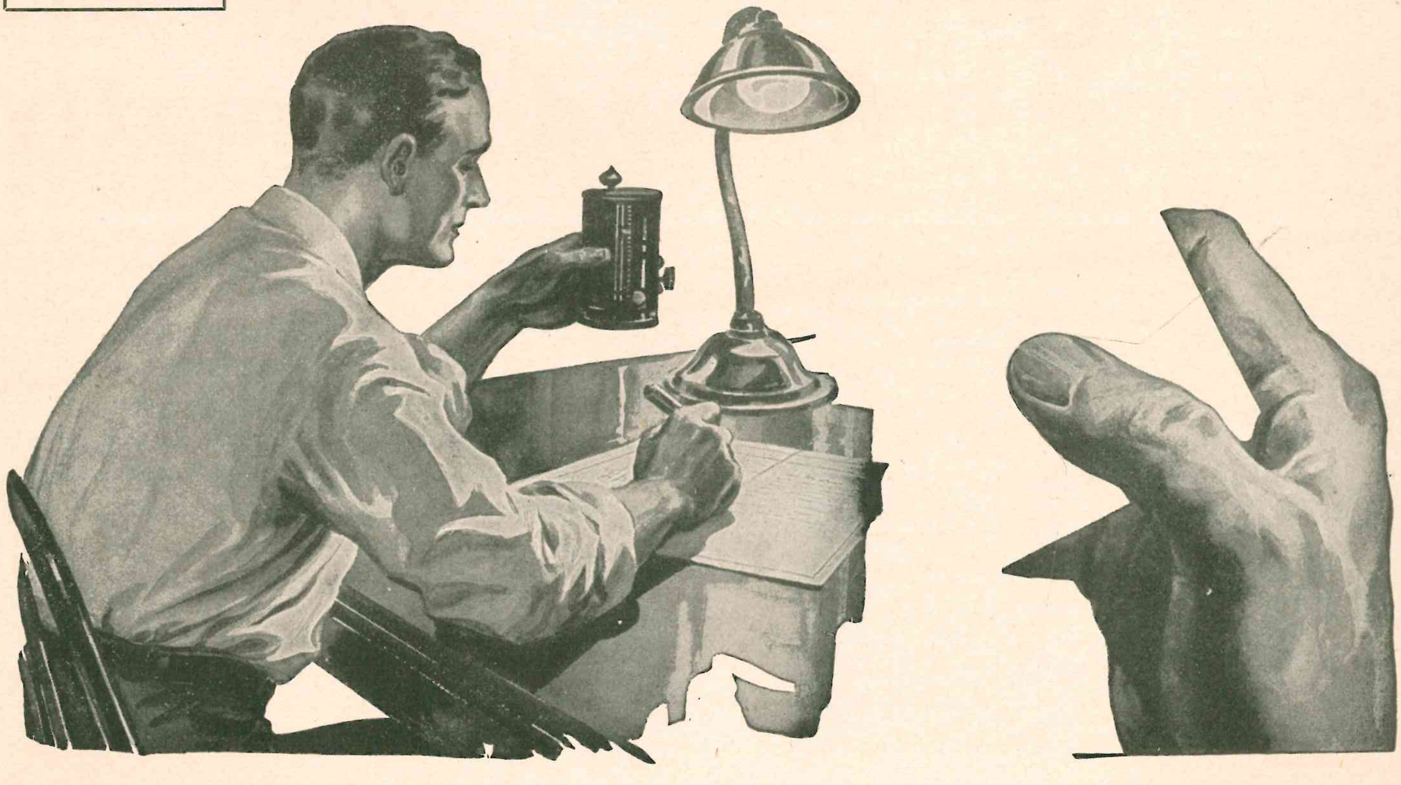
Remember this: AVOID DELAY. Time may be a PROTECTIVE ELEMENT IN YOUR FAVOR. Be the first to ACT as well as to think, if you can.



Your 1st Step . . . . . Fill Out this Evidence of Invention

THE Evidence of Invention form which you have just lifted from this page was placed there for a very definite and possibly important purpose. We say IMPORTANT because sometimes it is a properly dated and witnessed disclosure of an invention which spells the difference between getting a patent and *not* getting it. It is said that a few dated papers, found in the desk of a friend, were of great assistance to Alexander Graham Bell in establishing his rights to the original telephone. So if you do not already have a suitable sketch and description of your invention—we advise that you use this special form for that purpose. If possible use it *today*—at once. On the Evidence form itself are complete instructions. Read them now. KNOW WHAT TO DO TO START YOUR INVENTION on the road to Patent protection.

See **page** 10 for detailed instructions for filling in Evidence of Invention form.



Your 2nd Step . . . Have the Record Witnessed

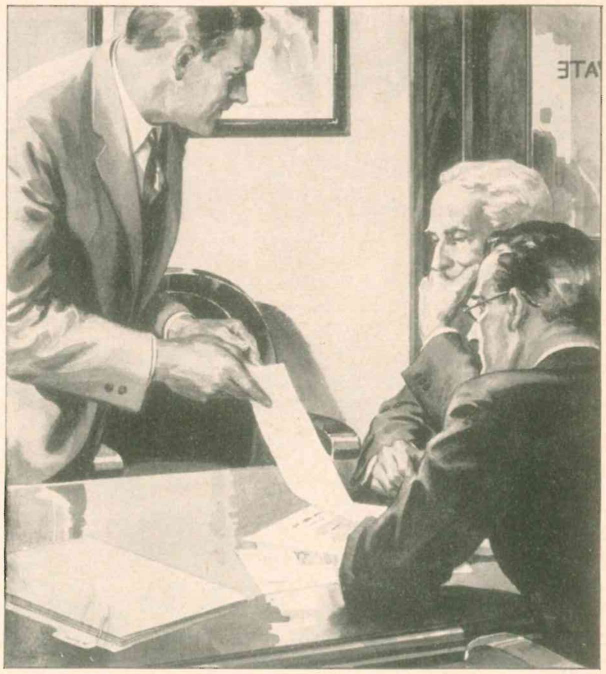
NEXT, after sketching and describing your idea, as explained on the Evidence of Invention form, sign your name, as the inventor, on the line provided for that purpose. Then have the form witnessed by two or more persons whom you can trust. But first fully explain it to them so that they will know in detail just what you have invented. Then they will, in reality, be witnesses to the fact that you have disclosed your invention to them on the date indicated. Remember that the law is concerned with giving protection to the FIRST inventor and your being in a position to establish your date of invention may be of great value to you. If you do NOT care to disclose your invention to anyone in your vicinity, don't let that delay you for a moment because you can make your disclosure to us. We will make a record of the time the Evidence of Invention form or other disclosure reaches our office and, consequently, we will be able, if necessary, to prove that date. Our practice of dating Evidence of Invention forms and other disclosures as we receive them has more than once helped us gain advantages for our clients.

Your 3rd Step . . . Mail the Record Promptly

"THE graveyard of inventors' hopes" is filled with inventions which for one reason or another their owners failed to protect. Do not rest on your oars simply because you have invented something. Before your invention becomes legally YOURS, your position as the first inventor must be clearly established. If you possibly can, mail this Evidence form (or any other disclosure you may have) at once. ONLY when you have done that, can you feel you have done everything at your end to safeguard your interests. ONCE you have done that, you may say to yourself—"Now, the wheels of protection will begin to turn. If my invention is new and patentable, it will be patented. If it is not, I will know that, too, so that I can either forget the matter entirely, make necessary changes, or immediately devote my time and effort to something else that may offer a better opportunity for success." By acting promptly—NOW if possible—you help us HELP YOU.

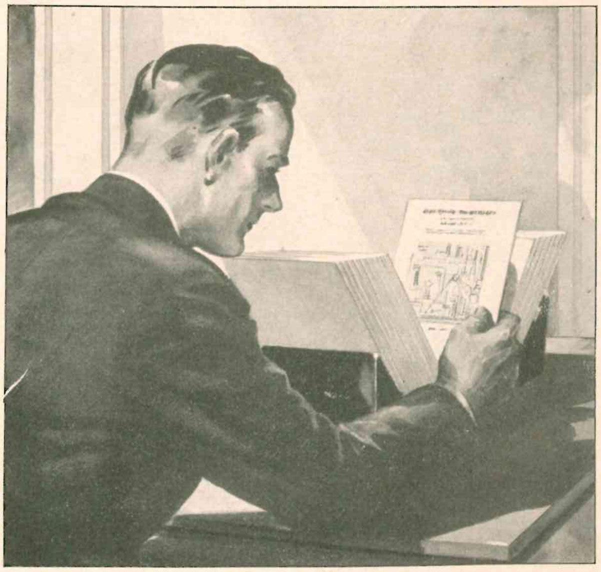
Our 1st Step . . . We Examine the Record you Send

AS SOON as the Evidence form reaches our office, we make record of the time of its arrival, and then turn it over to one or more of our staff for examination, to see whether or not the invention is proper subject matter for a Patent. As we will explain later on in this book, we have men in our different departments on our staff who specialize in various kinds of inventions. Your invention is therefore turned over to the man who is best qualified from experience to pass on your device. If it is unusual or complicated, he will, as a rule, discuss it with other members of our staff and he will be guided by their opinions as well as his own. It often happens that several experienced Patent men working together on an invention will develop more Patent possibilities than one man would alone. The point is that your invention will have careful attention and we will gain every advantage that PROMPT ACTION on our part can give you.



Our 2nd Step . . . We Search the U.S. Patent Records

HAVING considered your invention in our own office—our next step is to search the pertinent classes of U. S. Patents to determine whether or not the invention has already been patented in this country. By "pertinent" classes we mean those relating to similar inventions. If the result of this search does not disclose any existing Patents for devices similar to yours, we tell you so. On the other hand, we may find that something similar to your device has already been patented and that it would be useless for you to make application. In any event, we determine from our own examination and from our Patent Office search whether or not you appear to be justified in going ahead. These two important preliminary steps will be taken without delay; in fact, as soon as we receive the sketch and description of your invention, together with your instructions to proceed.



Our 3rd Step... We Send you a Search Report

AFTER our Searcher has completed the search in the Patent Office, he orders copies of the closest U. S. Patents found (if any), and discusses them with the head of our Search Department. The head of our Search Department, a Registered Patent Attorney of long experience, then prepares and sends you a report. We also tell you the course that we recommend. If it is obvious that you cannot secure a Patent, we tell you so frankly. If your chances appear to be good, we tell you that. So you see that the examination, search, and report are of importance and these steps should be taken, as a rule, at the earliest possible moment. We advise that you send us your sketch and description, together with the search fee, at once. That will place us in position to do our part without delay.

IMPORTANT... to save time Have Your Case Made Special

IF YOU wish to save time in getting your Application filed, thereby securing the advantage of an earlier filing date in the Patent Office, send us a sketch, photograph or model of your invention at once, together with 35 $25.00 on account. We will make an immediate search through the pertinent U. S. Patents to see if we can disclose Patents covering any device similar to yours and if we find any similar Patents, we will send you copies of them. But if it appears that your invention has not been patented, we will, in the ordinary case, prepare the official Patent Office drawings and send them to you for approval at once. If, however, after our examination of the records, we decide that there is doubt about your invention being patentable, we will write you before going ahead with the drawings and application papers. And it at that time, you decide *not* to proceed, we will return your remittance less a small fee to cover the cost of our Patent Office examination and report. This method will, in many cases, save time by eliminating correspondence and will thereby result in an earlier Patent Office filing date.

Models are Not Needed

YEARS ago the Patent Office required models, but this is no longer true. Most of our clients simply send us rough drawings or sketches, and these are usually sufficient. Therefore, though we are glad to have you send a model if you wish to do so, there is ordinarily no necessity. In any case, it is almost always best to save your time and money until after we have made the search report; then, later on, you can make a model for demonstration purposes.

The Cost of a U. S. Patent

AS YOU can appreciate, inventions differ widely in their nature and in the amount of work involved for a Patent Attorney. A device may be very simple or it may be complicated. We receive inventions which can be illustrated with a single sheet of drawing and others which take as many as twelve, fifteen or even more sheets. Also there are two general classes of Patents, as explained on Page 23, and the cost of a design Patent is usually less than for a Mechanical Patent. The U. S. Government fees, of course, are fixed, unless changed by an Act of Congress. These also are explained on Page 23.

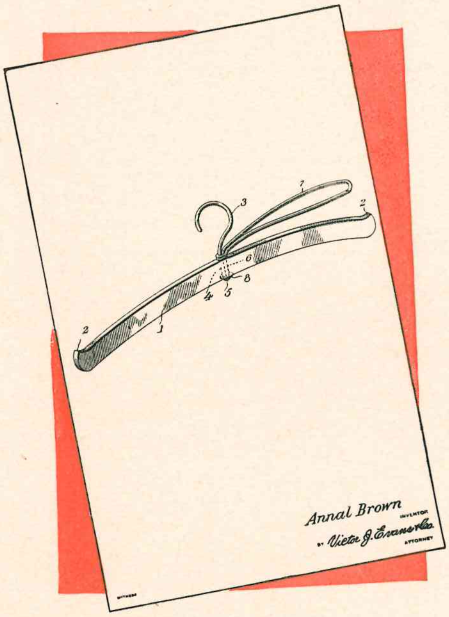
Our fees depend on the work involved in the preparation of your application, and the prosecution of it in the Patent Office. But our large organization enables us to systematize our business so that we do not have our highly paid technical men devoting their time to clerical work, and because of this our fees are somewhat lower than those of most other Patent Attorneys. It is our aim in EVERY case to secure for an inventor *not simply a Patent, but the strongest, broadest Patent possible.* And that, after all, is the only kind of Patent which is worth-while. If you receive anything less than that, your money is apt to be wasted.

Advance Estimates

After we have seen your device (or rough sketches), we will, upon request, advise you in advance what the charges will be. The best procedure is to send us a sketch and description without delay, together with remittance to cover the Patent Office Search. Then, with the Search data in our hands, we will be in position to tell you about the fees.

Also, where desired, we arrange liberal terms of payment, so that the inventor need not meet all his fees at once. When we see your sketch and description we will tell you about these deferred payments if you want us to do so.

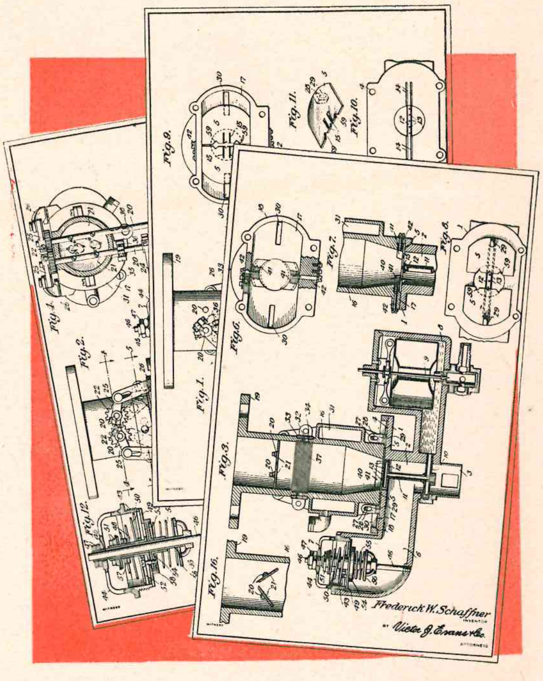
A Simple Case



THE Invention shown here represents what we mean by a simple case. It was properly illustrated with a single view of drawing on a single sheet. Moreover, the specification and claims for this application were correspondingly simple to prepare, and our prosecution of the claims in the Patent Office was concluded in a comparatively short time. However, structural simplicity alone will not necessarily determine the patent application as a simple case, because the range of novelty involved, the thought that must be given to the preparation of the claims properly to cover that novelty, and the probable amount of work necessary in the prosecution of the case in the Patent Office, are all factors which must be taken into consideration. Most inventions are either very simple or fairly simple, and can be patented at relatively low cost. Whether or not an invention can be classed as a simple case can best be determined after we see what the inventor has in mind.

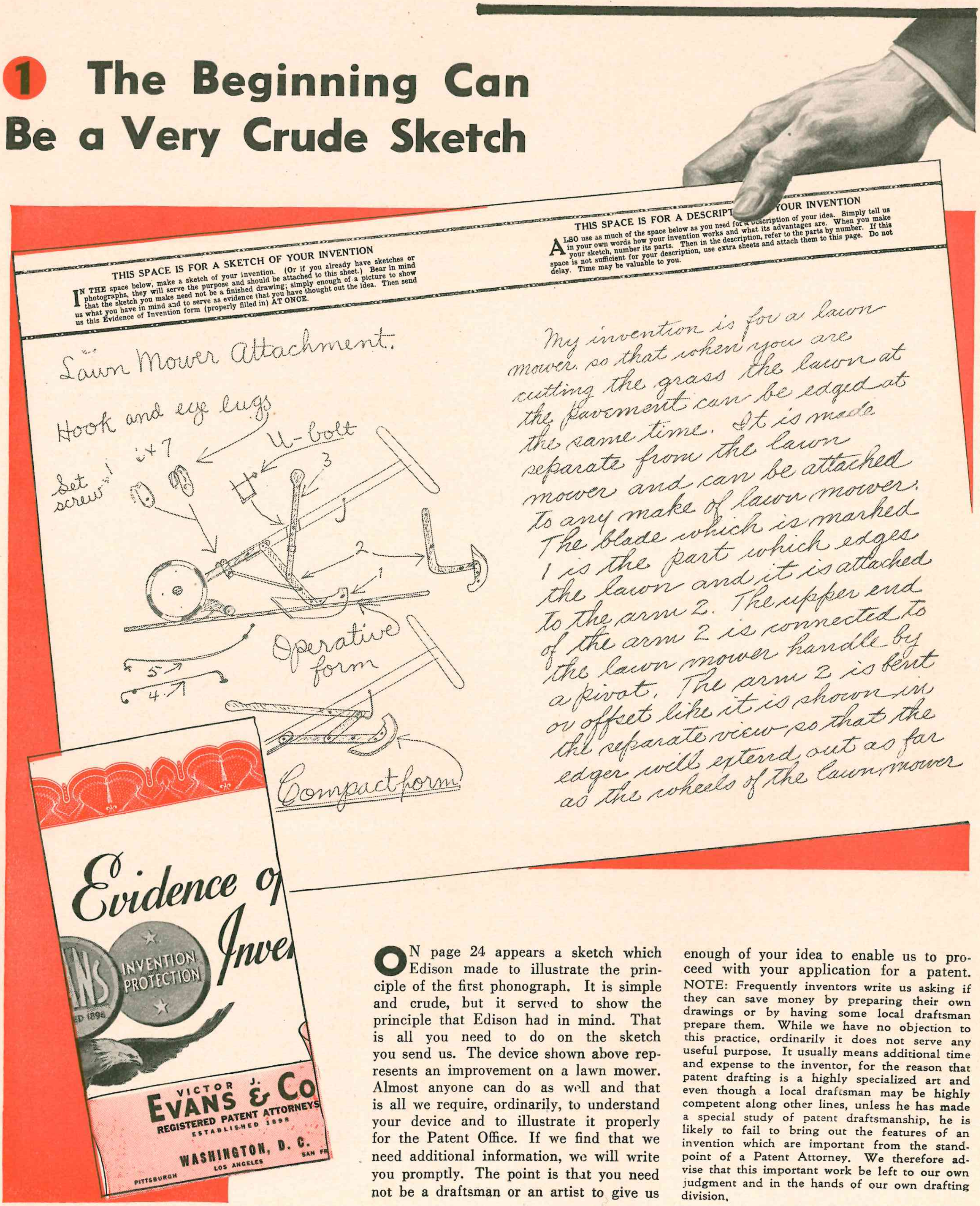
A Complex Case

HERE at the right are the drawings taken from a case which required three sheets. Some other devices, of course, require more. But we can advise you beforehand how many sheets of drawing will be required in your case. We will cooperate in every way both to keep your fees at a reasonable figure and likewise to work out convenient terms of payment. Also the fees we quote *cover the preparation of the drawings, petition, specification, claims, and oath, the Government filing fee and our charge for prosecuting the case to a conclusion before the Primary Examiner in the U. S. Patent Office.* There will be NO EXTRA CHARGES for amendments or interviews with the Primary Examiner, no matter how many may be necessary in our effort to secure for you the protection to which we believe you are entitled.



How the Drawings For Your

1 The Beginning Can Be a Very Crude Sketch



THIS SPACE IS FOR A SKETCH OF YOUR INVENTION

IN THE space below, make a sketch of your invention. (Or if you already have sketches or photographs, they will serve the purpose and should be attached to this sheet.) Bear in mind that the sketch you make need not be a finished drawing; simply enough of a picture to show us what you have in mind and to serve as evidence that you have thought out the idea. Then send us this Evidence of Invention form (properly filled in) AT ONCE.

THIS SPACE IS FOR A DESCRIPT YOUR INVENTION

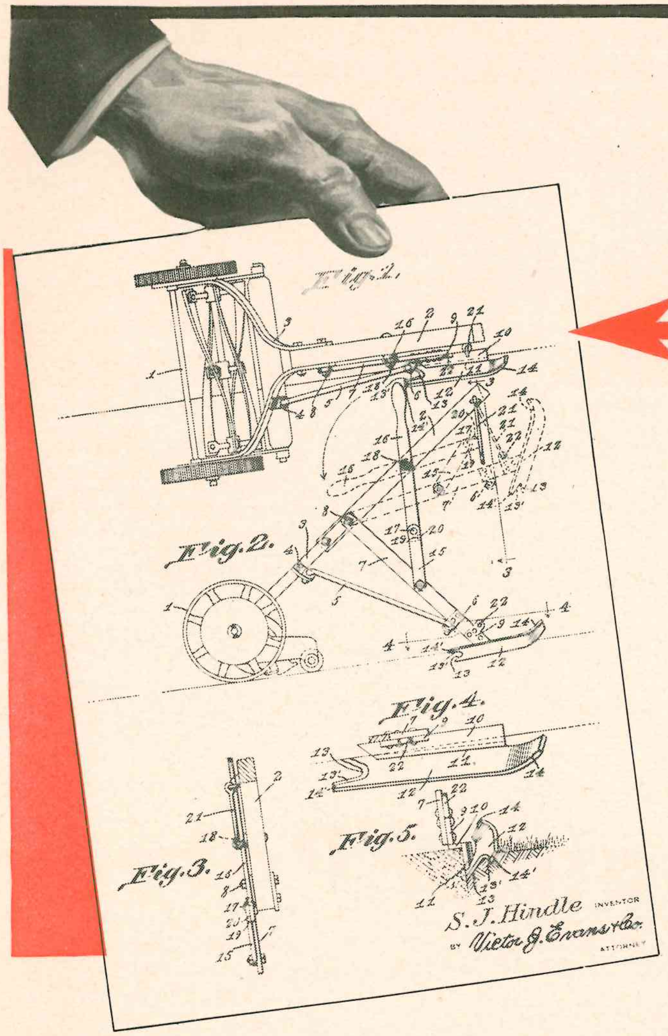
ALSO use as much of the space below as you need for a description of your idea. Simply tell us in your own words how your invention works and what its advantages are. When you make your sketch, number its parts. Then in the description, refer to the parts by number. If this space is not sufficient for your description, use extra sheets and attach them to this page. Do not delay. Time may be valuable to you.

My invention is for a lawn mower. so that when you are cutting the grass the lawn at the pavement can be edged at the same time. It is made separate from the lawn mower and can be attached to any make of lawn mower. The blade which is marked 1 is the part which edges the lawn and it is attached to the arm 2. The upper end of the arm 2 is connected to the lawn mower handle by a pivot. The arm 2 is bent or offset like it is shown in the separate view so that the edger will extend out as far as the wheels of the lawn mower

ON page 24 appears a sketch which Edison made to illustrate the principle of the first phonograph. It is simple and crude, but it served to show the principle that Edison had in mind. That is all you need to do on the sketch you send us. The device shown above represents an improvement on a lawn mower. Almost anyone can do as well and that is all we require, ordinarily, to understand your device and to illustrate it properly for the Patent Office. If we find that we need additional information, we will write you promptly. The point is that you need not be a draftsman or an artist to give us enough of your idea to enable us to proceed with your application for a patent.

NOTE: Frequently inventors write us asking if they can save money by preparing their own drawings or by having some local draftsman prepare them. While we have no objection to this practice, ordinarily it does not serve any useful purpose. It usually means additional time and expense to the inventor, for the reason that patent drafting is a highly specialized art and even though a local draftsman may be highly competent along other lines, unless he has made a special study of patent draftsmanship, he is likely to fail to bring out the features of an invention which are important from the standpoint of a Patent Attorney. We therefore advise that this important work be left to our own judgment and in the hands of our own drafting division.

Invention are Developed

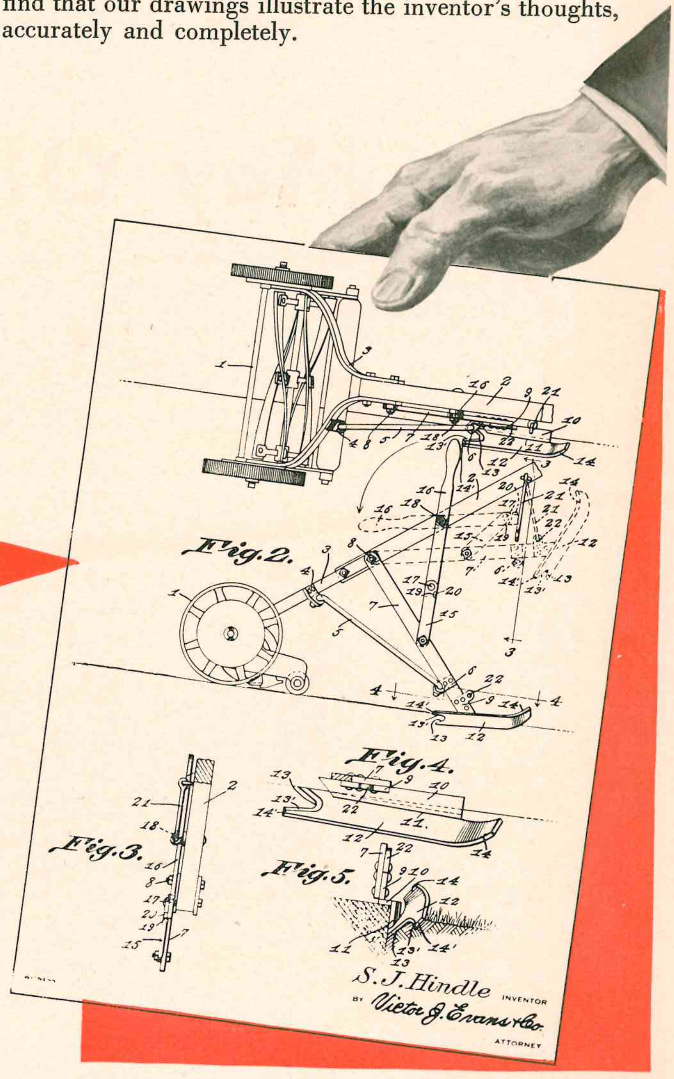


② Our Expert Patent Draftsmen First Make the Official Drawing in Pencil Like THIS

NOW compare the inventor's crude sketch on the page opposite with the pencil drawing which our Patent Draftsman made. He studied the inventor's idea, decided what views were necessary properly to illustrate the invention and then made this drawing in pencil form. A copy of this drawing was then sent back to the inventor for his O. K. That gives you a chance to suggest any changes if you want to, before the drawing is finally finished in ink for the Patent Office. However, because our Patent Draftsmen are all experienced men, who understand mechanics and who have been dealing with inventors for years, you will find that our drawings illustrate the inventor's thoughts, accurately and completely.

③ Finally a Finished Ink Drawing Like THIS is Made

THE third step in the development of drawings is to ink them in for the Patent Office. This is generally done after the inventor has O.K'd the copy of the pencil drawing we send him. If he wishes changes, or has an improvement he wants to make, that is done before the drawings are finally worked over in ink. A copy of the final, inked-in drawings is also sent to the inventor for his records. So you see at every step we work with you in the development of your idea and you know what we are doing. Our policy in this respect is, we feel, one of the reasons why so many of our clients *continue* to deal with us after we have served them once. Indeed we have some clients who have taken out patent after patent through us over a period of years. The fact that we *keep on* serving these inventors is the best evidence we can suggest of our ability and desire to deliver satisfactory service to you.



What Can Be Patented

THE Patent Law provides that any new and useful art, machine, article of manufacture, composition of matter, or design, or any improvement thereof, may be patented, if it involves invention.

A *new combination* of elements or parts, which in themselves are old, is patentable.

A *new improvement* in any known machine or apparatus which makes it more efficient, is patentable.

A *new improvement* in any known article which increases its usefulness, is patentable.

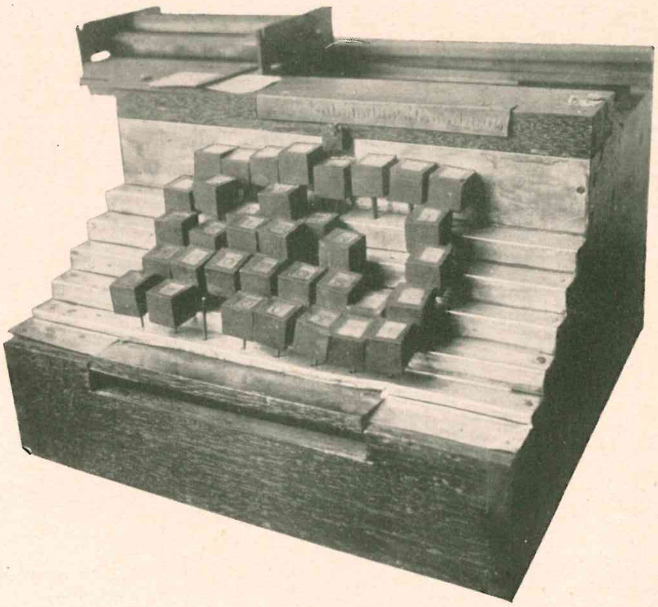
A *new process or method* is patentable unless it is wholly mechanical, that is to say, unless it consists of the successive steps of a machine or other mechanism.

A *new compound* is patentable, except such as are made in accordance with a physician's prescription.

A *new composition* of matter is patentable.

A *new design* is patentable.

Invention, however, must be involved in the production of each of the above.



The crude device above is the very first model of a typewriter. It can be seen along with many other interesting early models at the Smithsonian Institute, here in Washington. The typewriter has been of greatest service to industry and has given rise to a great industry of its own. Since this early model, many inventors have shared in its development.

For Illustrations, See Mechanical Movements, pages 38-42 Inclusive

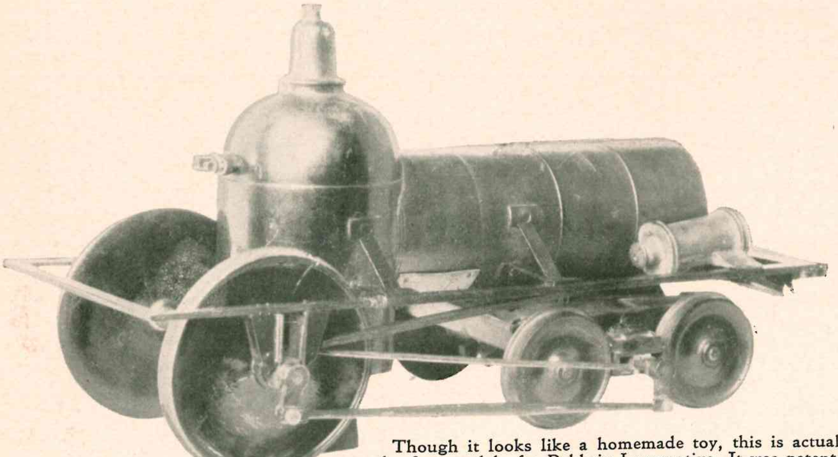
Who May Obtain a Patent

ANYONE who has invented anything which is the proper subject matter for a Patent, as described above, may obtain a Patent. It does not matter whether the inventor is a man, woman, or a minor, or whether he or she is a citizen of the United States or of a foreign country. There are no restrictions regarding age, sex, place of residence or nationality. Indeed it is not at all unusual for convicts in our prisons to invent and patent devices. (Employees of the U. S. Patent Office alone are excepted and are *not* allowed to take out Patents.)

Two or more persons can apply for a Patent jointly, provided they are really inventors. See page 28 for more complete information on this point.

Also an inventor may secure the rights of a partner in advance by giving the partner an assignment or contract, in which case the Patent can be issued in both names, though the inventor alone must sign the application papers. Also see page 28.

The administrators of estates of deceased inventors may apply for Patents.



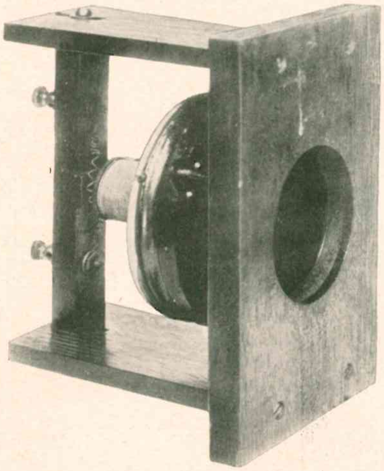
Though it looks like a homemade toy, this is actually the first model of a Baldwin Locomotive. It was patented back in 1840.

Why You Need a Thoroughly Competent *Registered Patent Attorney . . . . .*

THE value of your invention to you—what profit you can realize out of it—may depend entirely on the kind of Patent you receive. That is, whether the Patent is weak or strong in its claims. It is very possible through carelessness, ignorance or inexperience to secure a poor, or perhaps worthless, Patent on a very good and valuable invention. Indeed that has happened only too often.

For example, the claims in the original barbed wire fence Patent were entirely too weak—needlessly restricted—and as a result the inventor lost a large portion of the profits which this valuable invention made possible. Because of the weakness of the claims in the original Patent, another and later inventor, who patented an improved barbed wire, was able to manufacture his fence without infringing the original Patent. As a result he built a very large business.

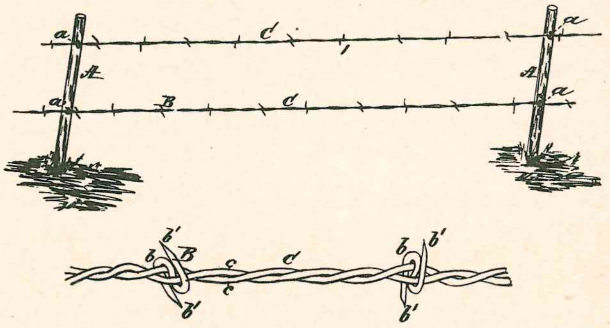
On the other hand, the claims for Bell's original telephone device were broad and strong, so that his Patent stood up in court in the face of all contests, and as we all know, Bell became a very wealthy and famous man as a result of his invention. Had Bell's Patent been weak, as was the original barbed wire Patent, it is quite possible that Bell would have lost much if not all of the profits his invention brought him.



This is the original model of Bell's telephone device for transmitting the human voice over a wire.

Thus, you see a great deal depends upon the ability of the Patent Attorney who prepares and prosecutes the Patent Application. If he lacks legal or technical ability, it is more than likely that the Patent will not fully protect the invention. A Patent Attorney should be well versed in Patent Law; technics should come natural to him; his technical training and experience should enable him to visualize the invention in other forms than those disclosed by his client; he should be painstaking and conscientious. So important to the inventor is the selection of a competent and conscientious Patent Attorney to prepare his application papers and represent him, that the U. S. Patent Office has published this warning:

> *"As the value of patents depends largely upon the careful preparation of the specification and claims, the assistance of competent counsel will, in most cases, be of advantage to the applicant, but the value of their services will be proportionate to their skill and honesty, and too much care cannot be exercised in their selection."*



Three inventors figured in the famous barbed wire fence case. One of them conceived the invention, similar to the above, but failed to apply for a Patent, or to manufacture his device, as mentioned on page 4. Another and later inventor took out a Patent, but his claims were weak. The third inventor whose drawing is shown above, was successful in establishing a large business, which would not have been possible had broad claims been secured by the first patentee.

Even the Supreme Court of the United States has commented on this subject. In the case known as Topliff vs. Topliff, Justice Brown said:

> "*The specification and claims of a patent, particularly if the invention be at all complicated, constitute one of the most difficult legal instruments to draw with accuracy*, and in view of the fact that valuable inventions are often placed in the hands of inexperienced persons to prepare such specification and claims, it is a matter of no surprise that the latter frequently fail to describe with requisite certainty the invention of the patentee, and err either in claiming that which the patentee has not in fact invented or in omitting some element which was a valuable or essential part of his actual invention."

For almost half a century—the firm of Victor J. Evans & Company has been in the business of helping inventors from every corner of our land, from all over the world, in fact. Our experience covers not a few inventions or a few hundred inventions—but thousands of them. We have moreover built up an organization which we consider second to none for the handling of Patent, Trade Mark, and Copyright work, in which we deal exclusively.

We have developed a staff of men who specialize in the various phases of Patent Practice and the different classes of inventions receive the attention of competent men experienced in those lines of work.

Our aim is to produce accurate, informative drawings; carefully prepared specifications; and claims broadly covering your invention; having in mind to secure for you a Patent which will afford you all the protection to which you are entitled. To this task our complete facilities are dedicated. To the fulfillment of this task, we attribute the unusual measure of success which we have enjoyed in this profession.

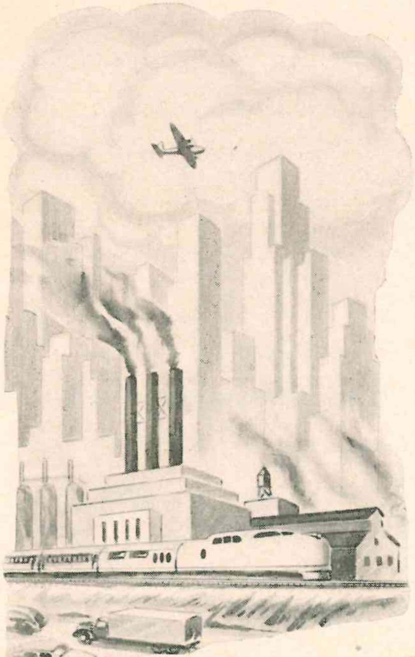
Original Patent Office Model of STILLSON WRENCH

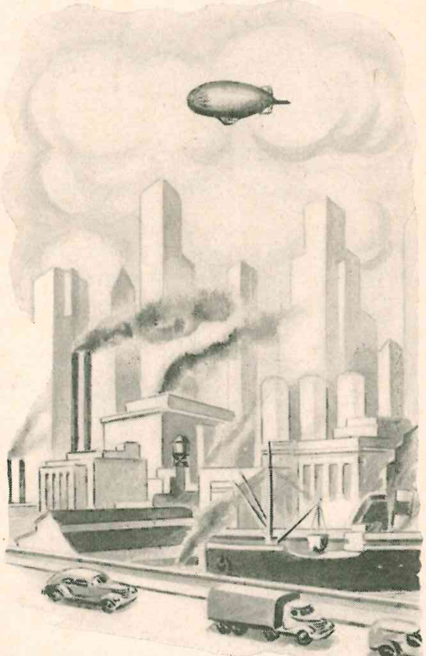
Basic tool of the Plumber and Steam-fitter

FOR many years, inventors were required to submit to the Patent Office, actual models of their inventions. Today, of course, drawings may be submitted and a model is not necessary. During those years, a collection of rare historical interest was slowly amassed. Hundreds of priceless relics of the growth of American industry were thus saved for posterity. One of the most interesting items is the original model of the famous Stillson Wrench. It is now on display in the Smithsonian Institute, here in Washington, D. C., charred and blackened, its wooden handle gone . . . bearing solemn witness to the famous Fire of 1877 which ravaged the Patent Office.

The Stillson Wrench is a simple device, and furnishes an excellent example of a small invention which has played an important part in building our present industrial world supremacy. Without the Stillson Wrench, the plumbing and steam-fitting trades could scarcely exist . . . as every man who has tried to grip a round surface with a monkey wrench is bound to know.

The Importance of Being *Represented in Washington*





MERLIN M. EVANS

Executive head and owner of our organization and surviving partner of the original partnership with Victor J. Evans & Arthur L. Evans.

VICTOR J. EVANS (1865-1931)

Victor J. Evans, founder of the firm of Victor J. Evans & Co. For many years the name Evans has been known to inventors in this country and in many foreign countries as well. Mr. Evans' keen understanding of the problems of the inventor and his sound, practical judgment in surrounding himself with men of wide experience and trained ability have been largely responsible for the continuing success of this organization.

ARTHUR L. EVANS, SR. (1867-1940)

Arthur L. Evans, Sr., brother of Victor J. Evans and father of Merlin M. Evans, had been connected with the firm nearly since its inception and had served in many capacities prior to confining his activities to that of administration.

ANOTHER distinct advantage which we offer our clients is our Washington location. Patent business must be conducted directly with the U. S. Patent Office in Washington, and there are occasions when time and money can be saved if the inventor's attorney is right here on the ground. A Washington Patent Attorney also has the advantage of being able to consult quickly the records of the Patent Office whenever the need occurs. And it is convenient for him to interview the Patent Office Examiner in charge of your case if it is believed an interview may result in the securing of broader claims. In many instances we have, by our close proximity to the Patent Office, been able to avoid delays both in filing and in securing the allowance of Patent Applications.

Our System and Our Organization

THE system employed in the office of Victor J. Evans & Company closely parallels that established by the United States Patent Office.

The Patent Office has divided inventions into several hundred main classes and innumerable subclasses, which are examined by a corps of examiners working in sixty-five divisions as explained on Page 2. When an Examiner is taken on as an employee in the Patent Office, careful selection is exercised. His natural inclinations towards some particular branch of invention is taken into consideration as well as his inherent ability to handle that particular class with a minimum of trouble. As time goes on, he becomes more than expert in that particular art until he can grasp at a glance the essentials of the invention which he is examining. To an extent, we follow this time-tested system in our office, and assign to our attorneys the inventions which relate most closely to the art or fields with which they are most familiar.

Since 1898, we have carefully built up this method of specialization, so that today, our attorneys can give our clients the utmost in service. In addition, each attorney finds time to become moderately familiar with other classes of inventions so that the whole is a well-rounded organization with a competent expert always at hand for each particular invention which comes into our office.

Naturally, as counsel for numerous inventors all over the country, a certain amount of departmentalization has been found to produce the most efficiency. Each of the departments handles a particular phase of Patent work. There is our Drafting Division where a group of highly skilled technicians translate rough sketches and models into easily-understood Official drawings of inventions. These men have natural qualifications for this type of work and many of them have been engaged in it exclusively for years. Another Division is made up of Searchers of the Patent Office Records. Here again, years of experience are necessary to fit a man to make a thorough and complete search to see if the device is actually patentable . . . many times reporting that some one else has patented an idea which is so exactly similar that the applicant is advised to drop the matter. Likewise, we have a Specification Department made up of Registered Patent Attorneys who specialize in these very vital phases of the work . . . men who know exactly how to draw up claims which are broad enough to stand up in possible litigation. The Legal Department is composed of men who are thoroughly familiar with work in connection with infringements, interferences, oppositions, cancellations, and who prepare assignments, partnership agreements, royalty contracts, etc., for our clients. The Trade Mark Department is a corps of specialists who often can establish a new invention and keep it established for years of profit to the inventor entirely through a strong and pertinent trade mark.

Of course, as in every modern business office, there is a system involving different departments to handle correspondence and all office work with a minimum loss in time and effort.

RIGHT—Exterior view of the Merlin Building, 1503 Twenty-First Street, N.W., Washington, D. C.

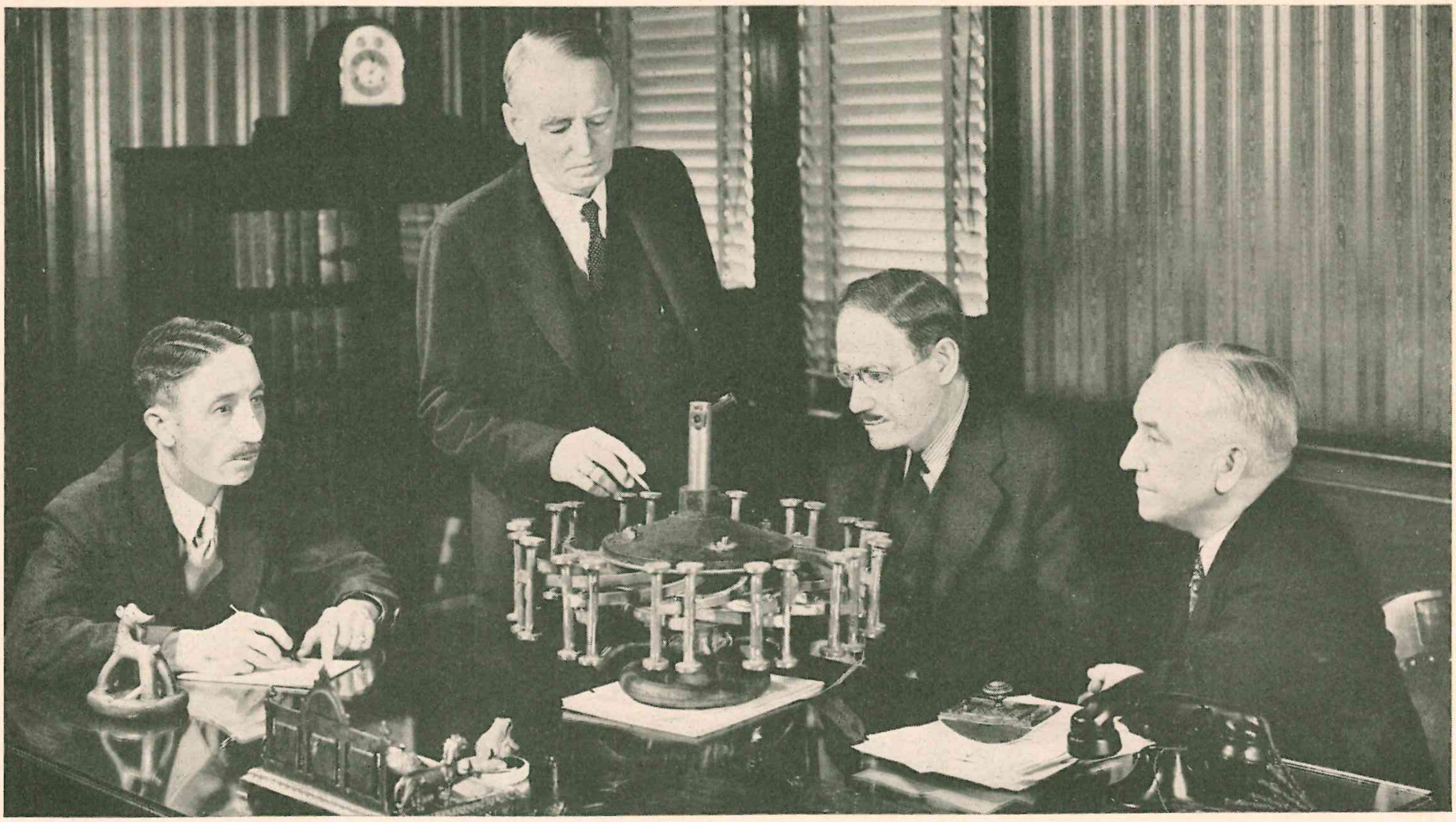
BELOW—Office of the President, Merlin M. Evans.

THE HOME OF

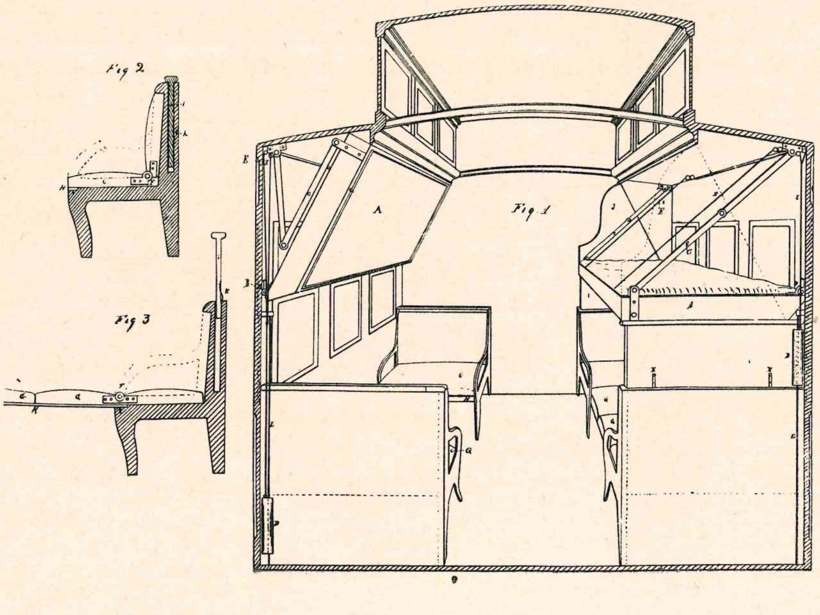
VICTOR J. EVANS & CO.

MERLIN BUILDING

Washington, D. C.



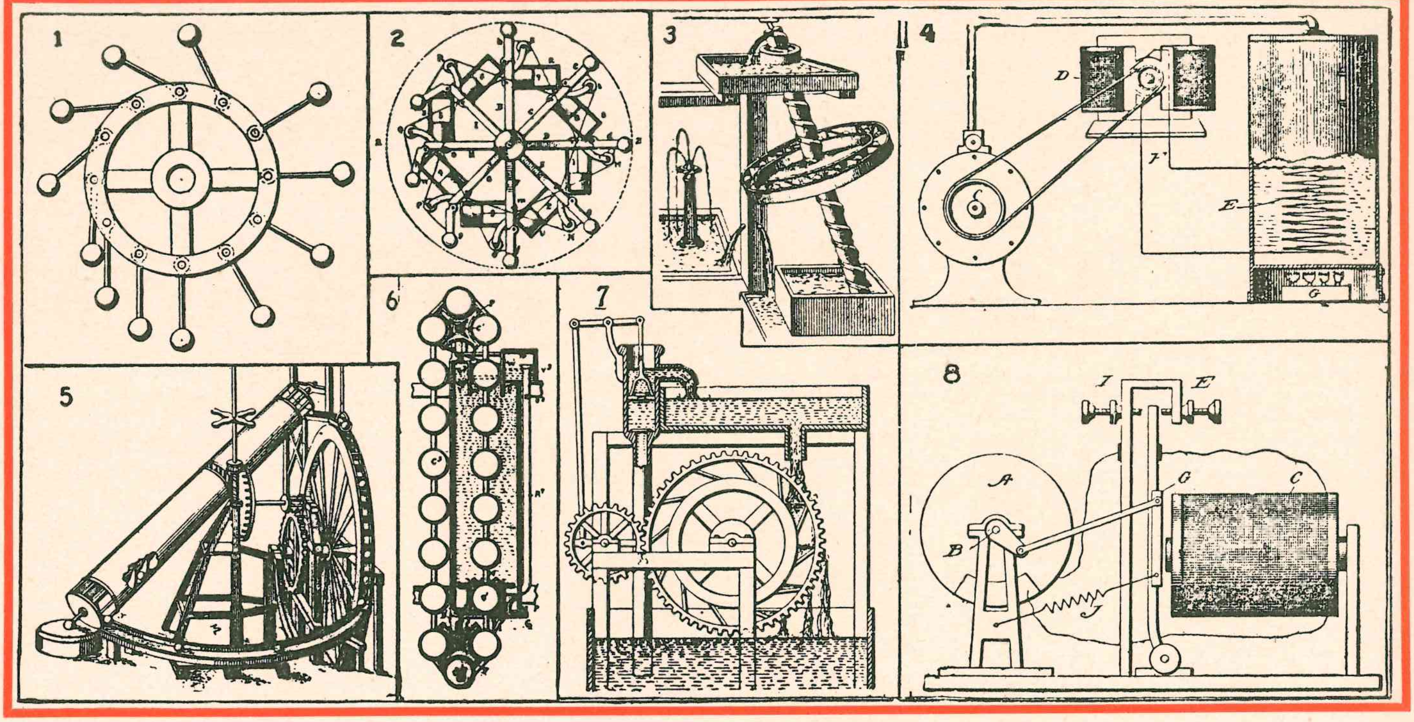
FREQUENTLY an invention presents points on which the Attorney in Charge wants the opinions and suggestions of other members of the staff. He then calls together a group of men all of whom have been in Patent Practice for years and lays the problem before them. In this manner, using several heads instead of one, better work, better service and better Patents frequently result. Often, too, such conferences are very helpful after the Primary Examiner has taken action on an Application. Perhaps by rewording some of the claims and advancing new arguments his objections can be overcome. It is an art to argue a Patent Case before a Patent Office Examiner just as it is an art to argue a case in civil courts before a jury. Here again the rule that several heads are sometimes better than one may apply. Frequently the Attorney in Charge will gain valuable suggestions during such conferences, whereby he is enabled to prepare a more forceful argument in support of his contentions when in an interview with the Examiner.



The Pullman Sleeping Car Patent

One of the most magnificent buildings in Washington is the Russian Embassy—an imposing residence on Sixteenth Street which was originally the home of the Pullman family. George Pullman owned no such palatial residence to start with, but by reason of his invention, a simple idea, he was able to secure contracts with the railroads to furnish sleeping cars. He revolutionized our system of travel; furnished thousands of men with employment and created a great fortune for himself. Just by glancing at the original patent drawings which are reproduced at the left, it is easy to see how fundamentally simple Pullman's idea really was. It is nothing more than a system of folding beds. This amply illustrates the real meaning and truth of that oft repeated statement that simple ideas sometimes produce the greatest results.

Forget Perpetual Motion



In the accompanying drawings—

Figure 1 represents a wheel involving a changing center of gravity principle.

Figure 2 illustrates a machine devised by the celebrated astronomer, James Ferguson, about 1770, for the purpose of showing the fallacy of perpetual motion machines.

Figure 3 illustrates a form embodying the principles of the Archemedian screw. It comprises a lower and upper tank containing water and connected by an inclined shaft encircled by a spiral pipe, to which is attached an impetus wheel operated by weights or balls.

Figure 4 shows a form of perpetual motion often repeated in various ways. The idea is to generate steam in a boiler sufficient to operate the dynamo, after which the dynamo generating current in circuit energizes the heat coil and maintains steam within the boiler without the use of the burner. This form of motor is one advanced by many amateur electricians.

Figure 5 represents a machine for constant motion invented by Colonel Kranach, of Hamburg, Germany.

Figure 6 seeks to take advantage of the property of certain bodies of a certain specific gravity to rise to the surface of such fluid.

Figure 7 is one of the oldest attempts in this direction, and is the idea that catches the novice more frequently than any other.

Figure 8 is an electrical self-moving device which is supposed to operate as follows: The frictional electric machine A is started by any means which energizes the magnet C and draws armature G to it. This breaks the circuit at IE, which demagnatizes the magnet C and permits spring J to shift to armature G to close the circuit, which allows the magnet C to again draw armature G over as soon as the crank B passes its dead center, which operation is supposed to be repeated perpetually.

It Never Worked — Never Will Work

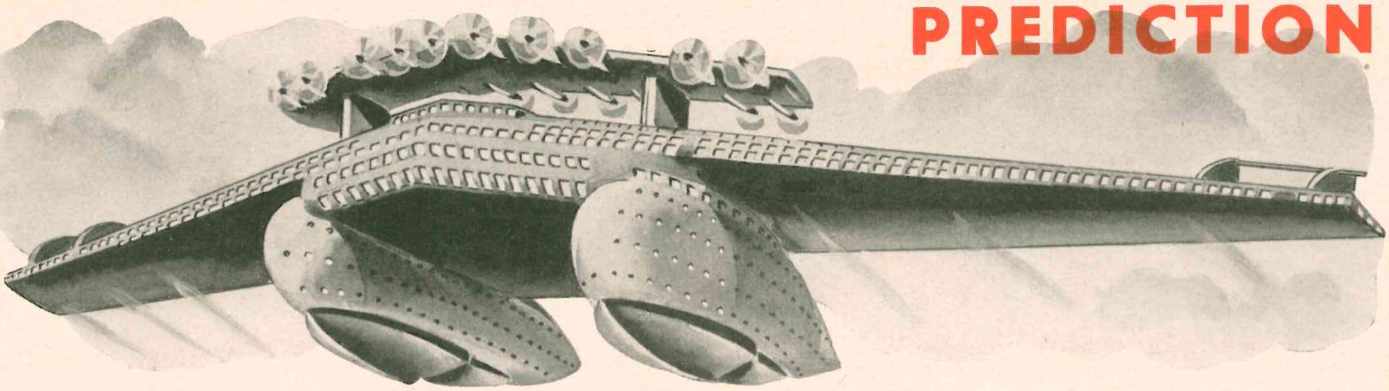
MANY persons are under the impression that a large sum of money has been offered for the solution of the problem of perpetual motion. So far as we know there has never been any such offer. Physicists can prove that it is an impossibility to get more out of a machine than you put into it, which would have to be accomplished in order to produce perpetual motion.

In our years of experience in the patent business we have had hundreds of devices submitted to us which were designed to produce perpetual motion. Many of them were invented by engineers and skilled mechanics. Some of them looked as if they ought to work, on paper. NONE WORKED.

Hundreds of thousands of dollars in time, labor and materials have been expended in endeavors to produce a perpetual motion machine. It has not been done, and we do not hesitate to say that it cannot be done.

The Patent Office is of the same opinion. Applications for patents for perpetual motion devices are forthwith rejected on the ground that they disclose an inoperative device; and the APPLICANT MUST FURNISH A WORKING MODEL in order to secure further consideration.

Do not waste your time and money on this phantom. Work to accomplish something which is possible. The world would be better off if the energy which has been wasted in attempts to secure perpetual motion, had been directed along other lines. The man who has sufficient inventive genius to conceive an apparently workable perpetual motion machine, has the ability to conceive patentable inventions which are really worth-while.

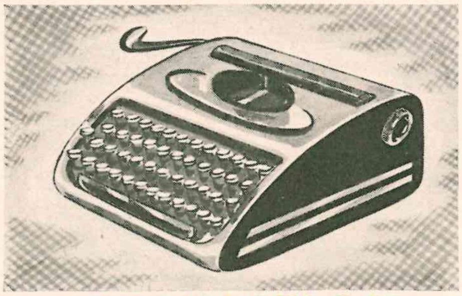


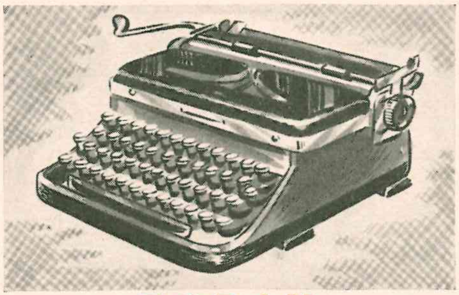
PREDICTION . . .

The Amazing Future of

HERE on these pages, you will see illustrated the dreams of forward-thinking inventors — and how quickly American industry is changing to fulfill them. Incredible as it may seem, many of our modern devices are almost facsimiles of the fantastic designs predicted years ago. In a few years, we shall have other things as yet unborn, even in the minds of the most courageous thinkers.

Who knows? Certain it is that the world around us will be materially changed within the next decade. Life will become more pleasant, the standard of living will be raised to incredible heights while the cost of all these miracles will be within the reach of nearly everyone.





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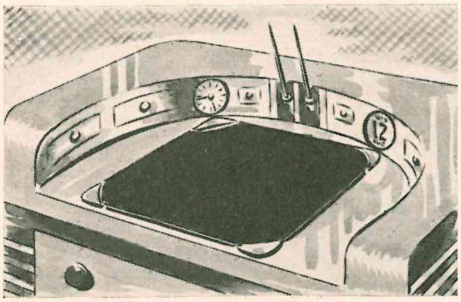

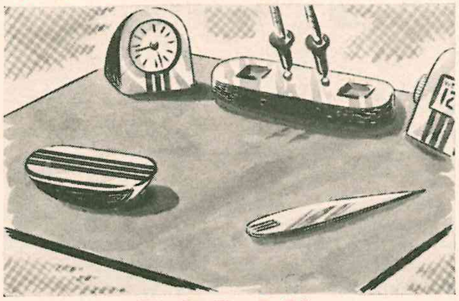

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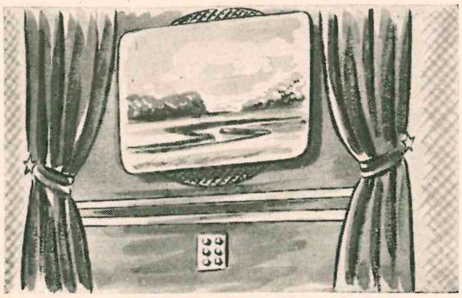

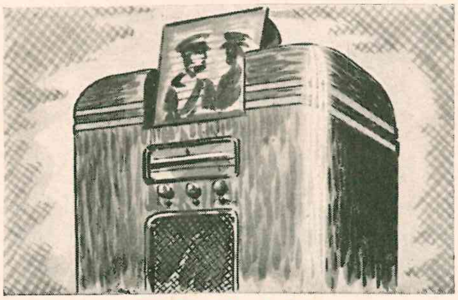

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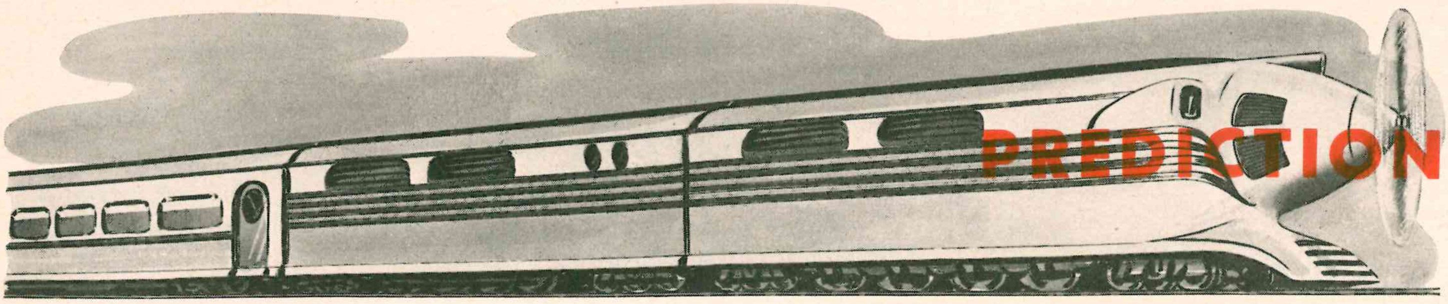

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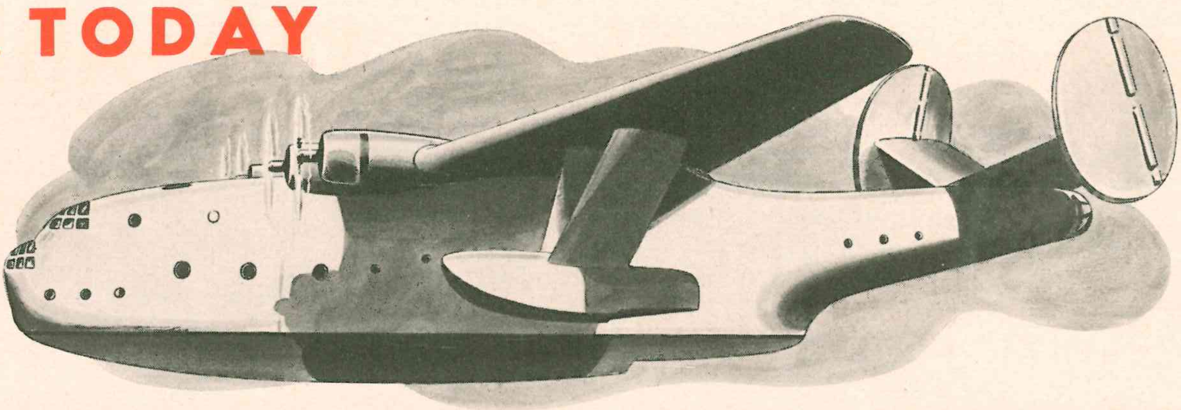
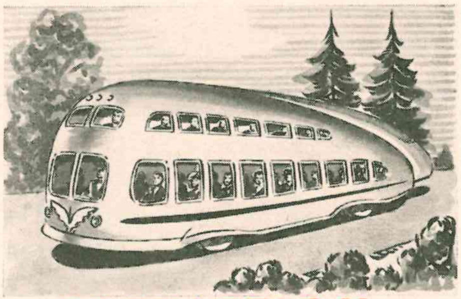


AMERICAN INVENTION

Perhaps it was of these wondrous changes that Charles F. Kettering, the great inventive genius of General Motors, was thinking when he said, "We're only entering the great period of inventive advancement". Perhaps Norman Bel Geddes is not far wrong when he draws his giant planes, huge motor buses, modern houses and factories.

Certain, it is that many other things, marvelous in their ability to increase the happiness and usefulness of human life, will be wrought from the stuff of the future by the skilled and tireless hands and the inspired minds of inventors now living and those whose genius is still a spark to be conferred by God.

This is the dawn of a newer and greater day.



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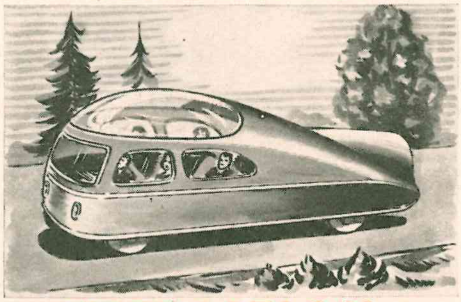

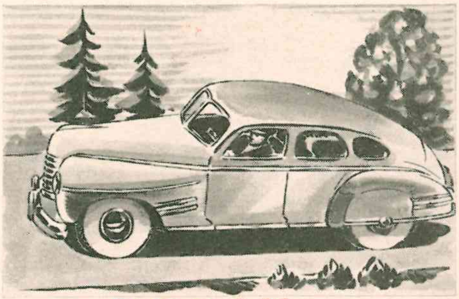

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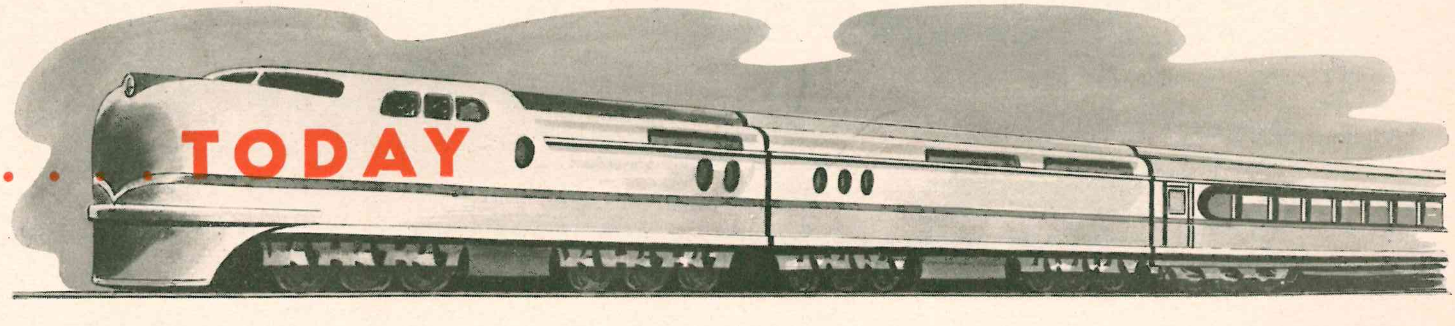

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"Invention Sets the Pace"

IN an editorial of the above title, which appeared in Collier's Magazine, some of the far-reaching social effects of invention, which most of us fail to consider, are discussed. For example, says the editorial: "The can opener did more to bring about woman suffrage than all the oratory of the most eloquent liberator of women. The can opener, of course, followed the invention of the can. Ultimately, the canning industry took out of the home, work which consumed a large part of the housewife's time. Out of the new leisure, and, naturally, from other causes, too, came woman suffrage and many other things.

"The motor car has been more effective in making innovations than Julius Caesar, Napoleon, Mussolini and Lenin combined. Or consider the omnipresent radio. The differences between regions and classes tend to lessen, if not to be wiped out. Music is given a great impetus. Sports are made more popular. Ships are made safer at sea. Employment is given 200,000 people.

"Inventions far less conspicuous have their social effects. Rayon, a chemical invention, has done much to wipe out social distinction reflected in women's clothes. Chemistry made attractive fabrics cheap, and women of all economic classes began to wear the same kind of clothes."

It has been said that the "pen is mightier than the sword." It can also be said that "the inventor is mightier than the politician."

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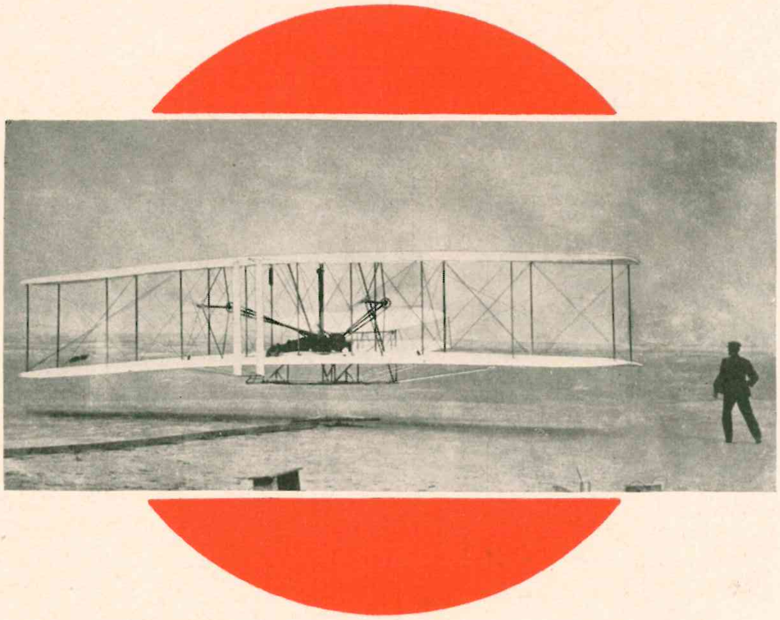
The Famous Wright Patent



UNDERLYING the fame of Colin Kelly and other heroes of World War II, underlying our far-flung airlines with their giant transports and underlying a great new industry, is the simple Patent issued to Orville and Wilbur Wright for their invention of the heavier-than-air machine. Previous to the Wright Brothers flight, all heavier-than-air devices without a gas bag attached were rejected by the Patent Office. This is, undoubtedly, the most amazing invention of modern times . . . the accomplishment of the "impossible" . . . a discovery that is changing the whole face of the world. And yet, the elements which enter into it are relatively simple. This famous invention represents a good idea, persistently developed, energetically perfected and richly rewarding those who worked on it. It should serve as an inspiration to all inventors.

There Are Four Types of Patents

THE terms usually used to designate the different kinds of Patents, and the class of inventions included in each, are as follows:

Mechanical Patents: The term "Mechanical Patent" is used to indicate a Patent for an improved article, machine, apparatus or device. (In a more general sense the term "Mechanical Patent" is used to designate all Patents not granted under the Design, and Plant Patent Laws, and includes electrical as well as mechanical devices.) It is granted for a period of seventeen years. The Government fees for a Mechanical Patent are: Filing Fee $30.00, which must be paid when the application is filed; and the Final Fee of $30.00 which may be paid any time within six months after the application is allowed.

Process or Method Patents: These Patents include new and useful processes or methods for producing a product. The product may be old, but the process or method must be new to be patentable. If both the process and the product are new, each may be protected by a Patent. The object of the process or method invention is to produce a new product; or to produce an old product which is better; or to produce an old product at less expense. The term of a Process or Method Patent is seventeen years. Government fees are: Filing Fee, $30.00; Final Fee, $30.00 within six months after the application has been allowed.

Compound and Composition Patents: Under this group of Patents come new chemical compounds, such as aspirin, and phenol compositions, such as paint removers, artificial stone, and cleaning fluids. Many proprietary preparations are protected by Compound Patents, and additionally protected by registered Trade Marks. The Government fees for Compound and Composition Patents are: $30.00 when the application is filed, and $30.00 within six months after the application is allowed.

Design Patents: As the name implies, a Design Patent is for a new and ornamental design for an article of manufacture, as for example a piece of furniture, an electric light fixture, a pattern for silverware, a new design for silks, woolens, cotton goods, or other fabrics. (See drawings shown on Page 30). A Design Patent protects you in ownership of a design just as a Mechanical Patent protects you in the ownership of a device. Design Patents have often proved very valuable. They are issued either for three and one-half years, seven years or fourteen years. Government fees are: three and one-half years, $10.00; seven years, $15.00; fourteen years, $30.00.

Chemical Patents

WE ARE all more or less familiar today with the great strides which have been made in chemistry during the last twenty years. The growing activity in the dye industry, the manufacture of rayon, the development of plastics, new war materials, toilet preparations such as soaps and toothpaste, cosmetics, ceramics, synthetic products, etc., is directly reflected in the great increase of chemical patents which are being issued. In many instances it may be said that these are among the most interesting and valuable of all patents today. Consequently we have taken occasion to add to our staff of attorneys a man who has made an extensive study of chemistry, who has wide experience in chemical patent work, and who, of course, is a Registered Patent Attorney.

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The Dynamite Patent

THE invention of dynamite put a high-powered explosive into convenient, usable form—thus tremendously assisting the mining and quarrying and excavating industries. It is an example of the way in which those interested in chemistry can invent and patent valuable compounds—contributing to the progress of industry and winning rich rewards for themselves. While the greatest percentage of inventions are still in the mechanical field, the compound classification is being expanded constantly, to the good of all concerned. It is important that a Patent Law firm have men who are qualified to understand the technicalities of this field of discovery. Our chemical work is handled by three Attorneys, one of whom is a Chemical Engineer and two of whom are Ex-Examiners from the Chemical Divisions of the Patent Office.

The Parts of an Application

EVERY application for a Patent is made up of the following parts all of which are essential: Petition, Specification, Claims, Oath, and Drawings. In most applications for patents for compounds, chemicals, methods, and processes, drawings are unnecessary and therefore need not be provided. Each part of the application must be carefully and accurately prepared to avoid trouble after the case has been filed. An improperly prepared application will not only not be allowed, but in some cases a filing date and serial number will not be given it.

The Petition

The petition, addressed to the Commissioner of Patents, consists of a formal request for a Patent on the invention shown and described in the application.

Specification

The specification sets forth to what the invention relates, and its objects. It describes the drawings in detail, and tells how the device operates. The preparation of specification is work which calls for a basic knowledge of physics, mechanics, electricity, and technics. In our office two other requisites are necessary in order to get on our specification force: experience and proven ability; and, of course, the man must be a Registered Patent Attorney.

Claims

The most important part of a Patent is its claims, for they are the inventor's measure of protection. On Page 13, we mentioned the first barbed wire fence Patent which proved of little value to its owner, notwithstanding his invention was, in itself, basic and of great value. The Patentee's claims were needlessly weak and restricted. That is only one case out of many. Claims in a Patent are not assertions on the part of the inventor as to what can be accomplished, and the advantages gained, by use of his invention; but they are paragraphs at the end of the specification which set forth what, of the structure shown and described, the inventor claims to have invented. The phraseology of the claims is not usually understood by the average layman, and he frequently criticizes a claim because of the broad terms it contains, which terms provide him with greater protection than terms specifically describing his device. No matter how well prepared the other parts of your application may be, unless your claims are skillfully drawn, your Patent will, in all probability, have less value.

The Oath

The oath of a Patent Application is a sworn statement of the applicant setting forth that he believes himself to be the original and FIRST inventor of the invention shown and described; and setting forth other facts relating to the invention.

Drawings

On Pages 29 and 30 typical Evans drawings taken from applications prepared in our offices are shown. It is a matter of considerable satisfaction to us and value to our clients that we maintain one of the most capable staffs of Patent Draftsmen in the country. Before a man is placed on this staff he must have had experience and satisfy us as to his ability to turn out first class work. We never entrust the official drawings for our clients to inexperienced or incompetent men. Clear, complete, skillfully executed drawings are often of great help to the inventor in interesting financial backers or manufacturers in his device.

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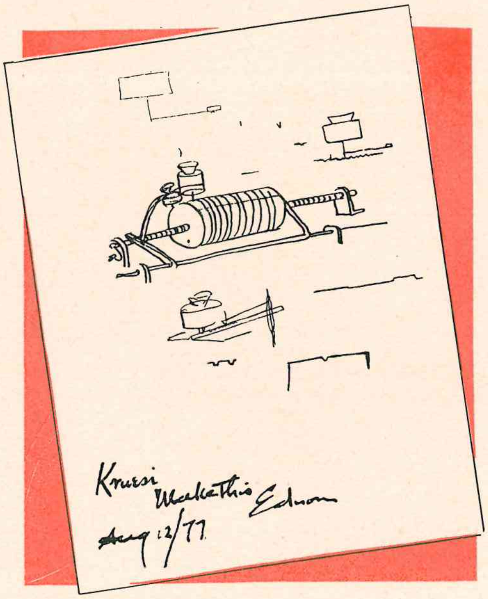

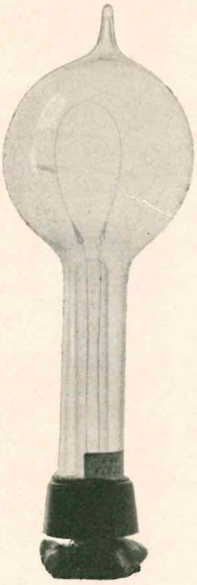

Edison Ingenuity

THOMAS A. EDISON, by many considered the greatest of American inventors, displayed his marvelous ingenuity in many different ways, as his hundreds of different discoveries bear witness. The invention of the electric light, for example, shows ingenuity pushed to the greatest limits. Literally hundreds of substances were tested before it was finally found that a carbonized bamboo fibre would maintain its incandescence for an indefinite period. The lights of Broadway, the tiny bulbs that surgeons use, are developments from the bamboo filament light invented by Edison. At left: The original model of Edison's bamboo filament light. Extreme left: The original rough sketch on which Edison showed his assistant the principle of the phonograph. Edison took out 1101 U. S. Patents.

Patent Procedure

What We Must Do to Secure a Patent

THE preliminary steps in patent procedure are carefully explained on Pages five through eight. Be sure to give particular attention to these pages. Those are the steps through the search of the pertinent Patent Office Records and the report of that search to you.

Next, if the search* is favorable, come the preparation of the Official Drawings, the Petition, the Specification and Claims, and the Oath.

The drawings are first prepared in pencil and prints are sent to you for approval. Any changes which you have made since submitting your original data, should be noted on the print or on a separate sheet. The print, with your instructions, should be returned to us.

Next we prepare and send you the Petition, Specification, Claims, and Oath for your approval and signature. Here again you have an opportunity to check on the work during its progress before finally signing the papers.

After the drawings and the other parts of the application have received your O. K., and signature, we proceed at once to ink in the drawings after which the application is filed in the Patent Office.

When your application is filed in the Patent Office it is given a serial number and is referred to its proper Division, that is to the Division in which your invention belongs according to its classification. There it will receive the attention of the Examiner in its turn. A few days after the application is filed, the Patent Office sends an Official Filing Receipt, which we promptly mail to you.

Upon reaching your case for action, the Patent Office Examiner after carefully studying your drawings, specification and claims, makes a search through his prior art to determine whether or not the claims of your application are allowable. In his opinion all of the claims may be met by the references he has found; or some of the claims may be met and others may be allowable; or all of the claims may be allowable. He sends us a letter in which he allows or rejects the claims, in whole or in part; or he may take some other action, such as requiring a division, "objecting" on the ground of some informality, etc.

In the Examiner's letter to us (usually referred to as an "Office Action") he lists the references upon which he rejects any claim. We order copies of any references cited in the Office Action and upon their receipt from the Patent Office, study them in connection with your drawings, specification and claims, and the Examiner's comments. We then proceed to prepare a full response to the Office Action. Our response may consist of an amendment to one or more of the claims, or we may cancel one or more claims and substitute others, or we may argue that the references do not meet the claims.

As a result of our action, the Examiner may allow the case as amended, or he may hold to his original action, or set up some new grounds in support of his position.

We, of course, must reply to each Office Action, and in order to do so it is necessary that we study the prior art cited, have a clear understanding of the construction, operation, and advantages, of your invention, and be familiar with the law, the Rules of Practice and the decisions of the courts and the Patent Office bearing on any point brought up by the Examiner. This procedure is referred to as the prosecution of the case before the Primary Examiner. It is of great importance to the applicant. It is during the prosecution of the case that the character and scope of the claims are determined; and the protection a Patent affords is measured by its claims.

Our aim is to secure for our clients the broadest claims to which they are entitled, irrespective of the amount of work it involves. Sometimes there are six, eight or more actions, and some interviews, before we reach a definite understanding with the Examiner regarding what protection our client is entitled to receive. This extra work involves no additional expense to the client as it is a part of the prosecution, and is covered by the attorney's fee.

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* All Registered Patent Attorneys limit their preliminary searches to pertinent United States Patents because they do not have access to classified Foreign Patents for this purpose.

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An Early Phonograph . . . Berliner's "TALKING MACHINE"

Many people do not know that another highly successful inventor by the name of Emil Berliner worked along lines similar to those of Edison and Bell in several respects. Berliner invented the transmitter for the telephone and also a "talking machine" as it was known several years ago. His early model is shown here. Like Edison, he made valuable contributions to the development of motion pictures. Unlike Edison, however, Berliner made a number of inventions of importance in the field of aeronautics. Though Berliner never achieved Edison's fame, he did secure substantial reward financially and to men of science his name would be ranked along with those of other pioneers who blazed the trail along the path of industrial progress which has brought to us the amazing world we know today.

How Long Will it Take Us to Secure a Patent? . . . .

NEARLY every inventor wants an idea of the time required to secure a Patent after his application is filed. Unfortunately, neither we nor any Patent Attorney can ever answer this question accurately in advance. The time will to some extent vary according to the Division of the Patent Office to which the application is referred. However, the point ultimately depends on the particular Division to handle the application, on the nature of the invention itself, and on the promptness of the Attorney in replying to Patent Office actions.

We endeavor to be prompt in our correspondence and in the preparation of the required papers and drawings. It is true that neither we nor any other Patent Attorney can hasten an application after it has been filed and is awaiting action on the part of the Patent Office; but we can, and frequently *do* secure an earlier allowance by avoiding delays in our own office.

When to Use the Term "Patent Applied For"

When you receive your Official Filing Receipt, which the Patent Office gives us and which we promptly send on to you, you may use the term "Patent Applied For." You may mark this term on any drawings, papers or models, or, if you are a manufacturer and are already making or producing the device for which you have made application, you may stamp this term on such goods or articles. It is a common practice for manufacturers to make and sell an invented article before the Patent has been allowed, stamping the article "Patent Applied For." This is notice to the world that application for a Patent has been made and frequently will tend to discourage competitors. Before you attempt to sell an invention you should take steps to protect it.

All Correspondence Held in Confidence

Never in our many years of experience has an inventor's confidence been misplaced. It is a RIGID, INFLEXIBLE rule here that our business with you is STRICTLY BETWEEN US—and that *on no occasion* or *under no circumstances* will we ever divulge any information regarding your invention when your application is being prepared or is pending in the Patent Office, unless you specifically instruct us to do so IN WRITING.

On this point, we might add that while, in our opinion, practically all Registered Patent Attorneys abide by the unwritten law that a client's business is almost sacred, we feel we have a right to take pride in our own long and honorable record in this respect. Once your sketch, photograph, model or other disclosure reaches us it is securely, safely filed BEHIND CLOSED DOORS to anyone and everyone except yourself or your duly authorized representative.

The Beginning of Roller Skates

Just four years after the Civil War, an enterprising inventor devised what he named the "Parlor Velocipede"—the forerunner of the present roller skate. This invention opened the way for large profits to many people and, as continual improvements have been made, the sport of roller-skating has continually gained in popularity. This invention is important because it emphasizes the wide opportunities offered in the field of sports and games. Devices for fun and recreation are as much in demand as complicated industrial machinery or new chemical compounds. Even children's toys offer tremendous opportunities for profit.

Infringements, Interferences, Oppositions, Cancellations

IN addition to our work in connection with the preparation and prosecution of applications before the Patent Office, we are prepared to handle contested matters arising in the Patent Office as a result of Interferences involving applications for Patents, or applications for Trade Mark Registrations, as well as Trade Mark Oppositions and Cancellations. The Patent Office has no jurisdiction in matters of infringement and when a Patent or a Trade Mark Registration is infringed, the patentee or Trade Mark registrant must seek remedy through the Courts. Cancellations and Oppositions arise only with respect to Trade Mark registrations and applications for registration and these matters are treated in our booklet "Value of Trade Marks" and are not therefore further discussed here.

An Interference results when two or more inventors apply for Patents on the same, or substantially the same patentable invention, and is a proceeding instituted by the Patent Office to determine which was the prior inventor, since under the law, the Patent must be issued to him. In an Interference, each contesting party is afforded an opportunity to present his proofs and the Patent Office determines from these which was the prior inventor and issues the Patent accordingly, unless the losing party or parties appeal when, of course, the decision of the highest Appellate Tribunal controls the question.

Our knowledge of and facilities for handling Patent and Trade Mark matters are recognized by hundreds of lawyers in general practice who send us the Patent and Trade Mark cases of their clients and not infrequently call upon the members of our staff to render opinions and prepare contracts and other instruments relating to Patents and Trade Marks.

• • • Appeals • • •

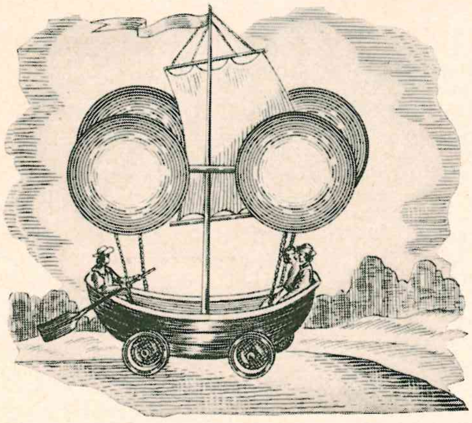
When an application is finally rejected by the Primary Examiner of the Patent Office and the inventor still considers his invention patentable, he can then assert his rights by successive appeals to two higher tribunals, as follows:

Appeal to Board of Appeals: This Board consists of eight Examiners-in-Chief, three Assistant Commissioners and the Commissioner of Patents. Any three of these individuals constitute a quorum and are empowered to review and determine the justice of adverse action of the Primary Examiner. The decisions of the Primary Examiner are not infrequently reversed by the Board of Appeals.

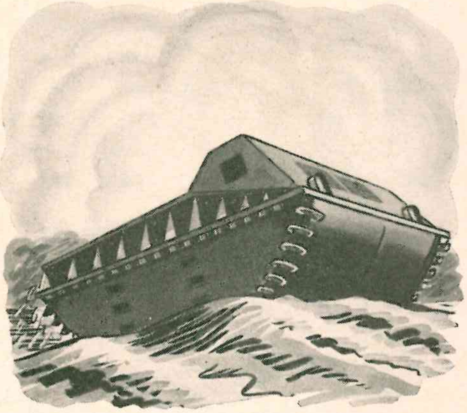
Appeal to the Court of Customs and Patent Appeals may be made from an adverse decision of the Board of Appeals.

However, appeals are rarely necessary and in no instance do we advise appeal unless we feel confident of success and there appears to be a decided advantage to the inventor if the appeal is won.

Inventors' imagination is an accurate Gauge of Progress



For centuries, forward-thinking men have dreamed of a vehicle which would be equally at home on the sea, on the land and in the air. An early inventor's conception of this extraordinary method of transportation is shown at the left. Right, is the closest practical equivalent . . . the modern amphibian tank, which is equally at home on land or in the water. The name of the inventor who first combines these two modes of travel with wings will win renown throughout the world, for rich rewards as well as the gratitude of his government await him.



Two or More Inventors Can Apply for a Patent . . . . .

WHEN two or more persons working together create or discover an invention, they may apply for a Patent together. If, however, *only one person* is the inventor and the other is simply a partner or financial associate, then the Patent Application should be signed *only* by the man who actually did the inventing. He can secure his partner in advance by making an assignment (see below) to him, which can be prepared so that the Patent itself will be issued in both names.

If you have some one else working with you on an invention, it is highly important that your attorney knows your true relation to your partner; that is, whether the partner's position is that of inventor or financial and business associate, for if both of you should sign the application papers, whereas in reality *only one* of you actually invented the article or device, a Patent when issued would be invalid. Simply remember that two or more people can make application for a Patent together only when both or all of them actually had a hand in the act of inventing. Otherwise protect the interest of your partner or partners by means of an assignment.

Inventors Frequently Assign Patent Rights in Return for Financial Help

THOMAS EDISON, early in his career, was a very poor young man. Consequently, in order to secure the help of certain associates, he gave them an interest or share in his inventions. Naturally, when these inventions became valuable, these men associated with him in his early efforts profited handsomely.

There are countless examples where an inventor needs assistance in one form or another. Maybe he needs the use of a machine shop or a laboratory; maybe he needs money; maybe he needs the help of a man who understands business and is in position to help him get his invention on the market after he has secured a Patent.

An assignment of an interest in the Patent is one of the most common ways for an inventor to secure such assistance. The inventor may assign his invention either before or after the application for a Patent has been filed, or after the Patent has been granted. He may assign any portion of the rights to the invention, such as one-half, one-third, one-fifth. He may assign rights to manufacture the invention on a royalty basis. He may assign the Foreign Patent rights or the rights in a limited number of foreign countries.

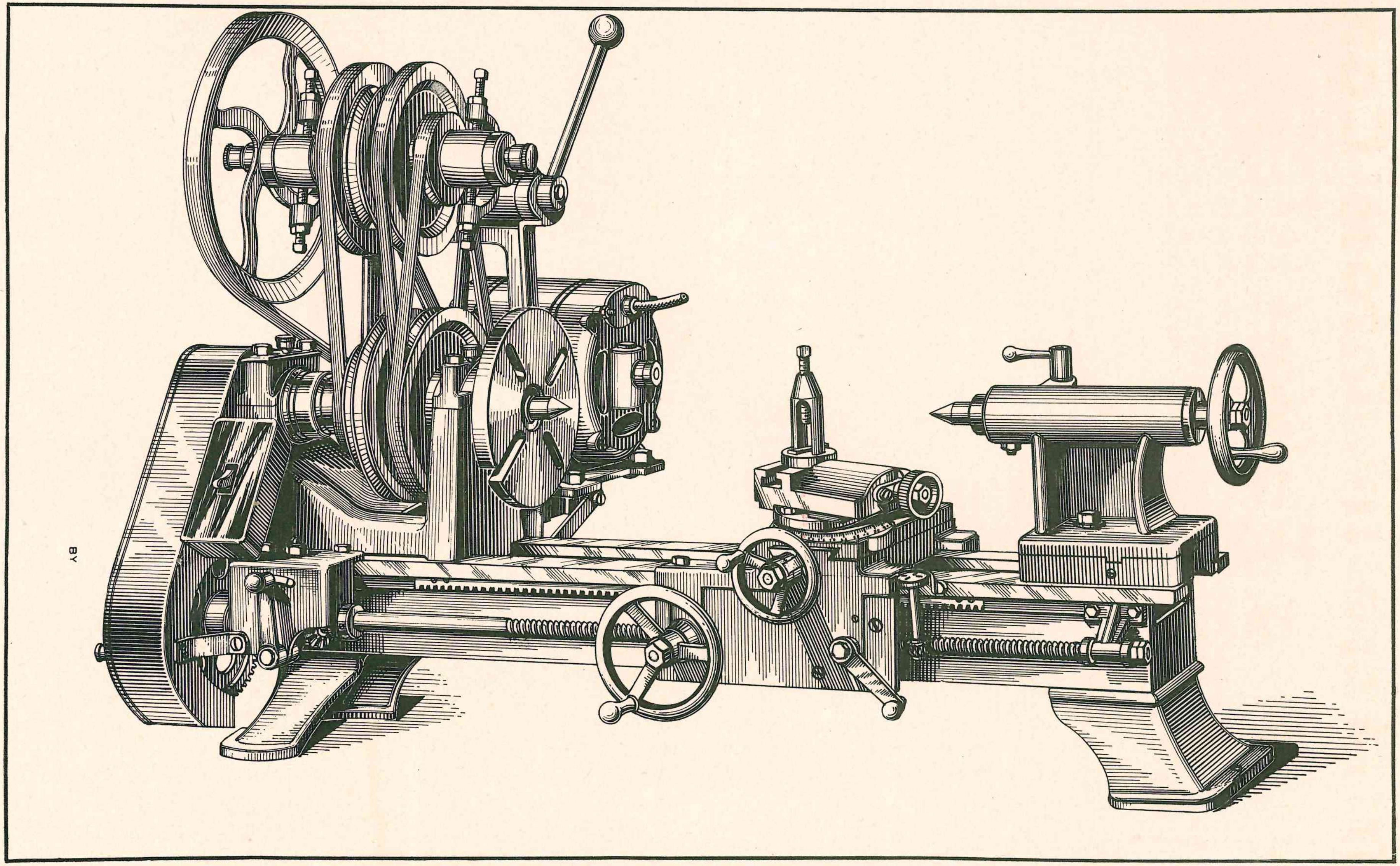
But in any case, irrespective of the terms of the assignment, it should be *carefully drawn* by an attorney who is familiar with Patent Practice.

There is the case where an inventor assigned the rights to his invention to a manufacturer on a royalty basis. That is, he assigned all the rights to his device with the understanding that the manufacturer would pay him so much for each device manufactured. The agreement failed to mention, however, how many devices the manufacturer should make. In other words, there was no minimum number specified in the agreement which would protect the inventor and give him at least a minimum income. Consequently, the manufacturer made one device, paid the inventor his royalty on that one device and then put the invention on the shelf. The inventor had no recourse, for the manufacturer had fulfilled the literal terms of the contract.

This case is unusual, because most manufacturers and business men are honest, but an inventor should ALWAYS remember that an assignment is a legal document which should be drawn up only by an experienced Registered Patent Attorney who knows how to prepare such legal documents.

ALSO REMEMBER THIS: That an assignment or any other agreement affecting the title of a patent MUST be recorded in the United States Patent Office, or it is not binding against a later purchaser without notice. HAVE YOUR ASSIGNMENT RECORDED IN THE PATENT OFFICE.

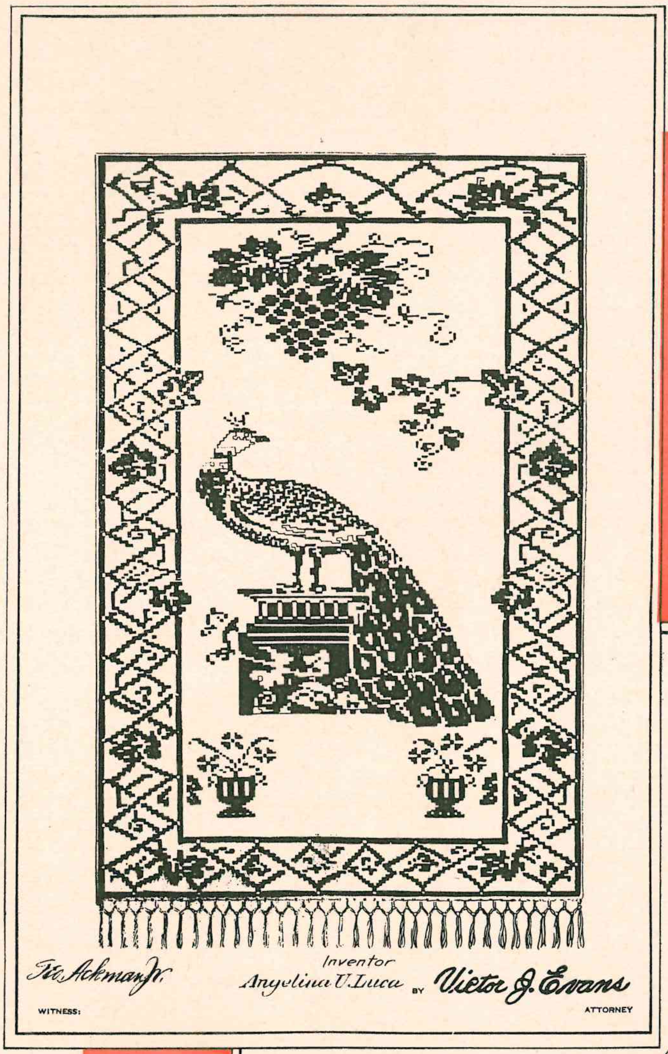
Our experience in the preparation of assignments, partnership agreements, and other types of contracts affecting inventions, has been extensive. Our fees are very moderate. Write us at once if you desire further information on these important subjects.



A Specimen of an Official Patent Office Drawing as Prepared by Our Experienced Patent Draftsmen

A staff of skilled and highly trained Patent Draftsmen, in our constant employ, are ready to prepare the official drawings for your application. Above is a perspective drawing of a power lathe, showing the fine type of work which these men do.

Design Patent Drawings



THE patent draftsman must be skillful and artistic if he is to execute the drawings for a design patent satisfactorily. Among the men on our drafting staff are several whose abilities are unquestioned and who are specially trained and experienced in this line of work.

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IT naturally follows, that the inventor of a design must be careful to select a patent attorney who has at his disposal the services of patent draftsmen competent to undertake this important work. On this page are two interesting examples of Design Patent drawings, the work of our drafting department.

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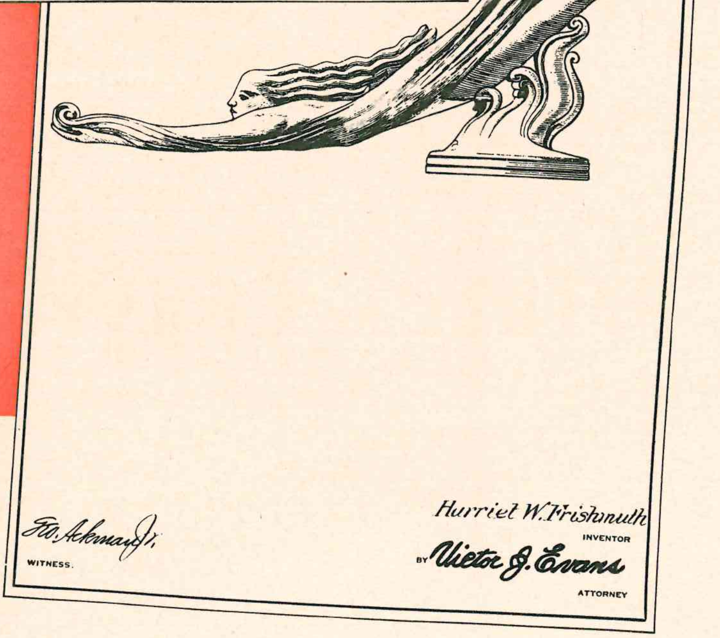
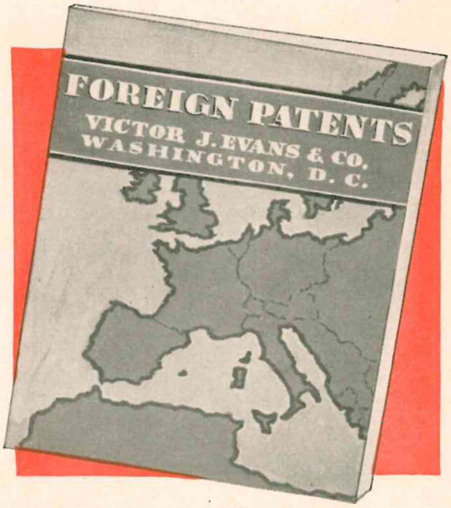


. . . Foreign Patents . . .

FOR those interested in the subject of Patent Protection in foreign countries, we have prepared a special booklet which sets forth the procedure to be followed and gives tables of fees. The average American inventor, however, should make protection in this country his *first* and foremost consideration.

The fact that later his Foreign Patent rights may prove very valuable is, of course, of interest, but he should always have in mind that the United States affords the largest, richest and most responsive market in the world for nearly all new products of merit.

At the proper time we will be pleased to take up this question with you and through our own Foreign Patent Division, which has connections with Patent and Trade Mark representatives in practically every country in the world, we are in position to render highly capable service at reasonable cost.

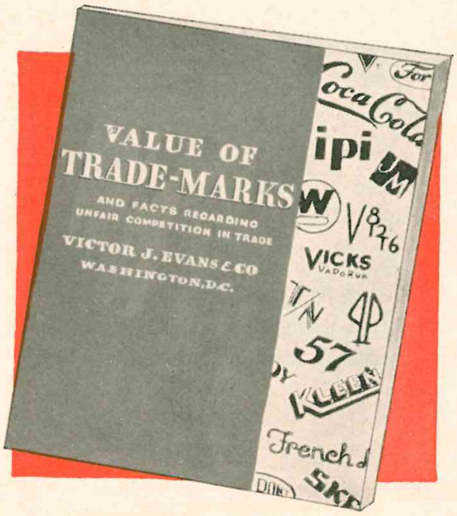

FOREIGN PATENTS
VICTOR J. EVANS & CO.
WASHINGTON, D. C.

. . . Trade Marks . . .

ANOTHER very important subject which we have covered in a special book is Trade Mark Registration and Protection. Most of the marks you see on goods and articles have been registered in the United States Patent Office. There are many advantages in this, and a number of regulations which must be followed.

Some products cannot be patented, but can be protected by Trade Marks. Many of the preparations you find in drug stores and grocery stores come under this classification. Often, too, as a name or mark becomes widely known through use and advertising, it will become a company's largest asset. For example, the name "Maxwell House" as applied to coffee is very valuable. As a matter of fact, several years ago this product was purchased by the General Foods Corporation and the price paid for the name alone ran well up into the millions.

If you are concerned about Trade Marks at this time, write us at once and we will supply complete information. We have a division which specializes in this work.


VALUE OF
TRADE-MARKS
AND FACTS REGARDING
UNFAIR COMPETITION IN TRADE
VICTOR J. EVANS & CO
WASHINGTON, D.C.

Labels and Prints — Copyrights

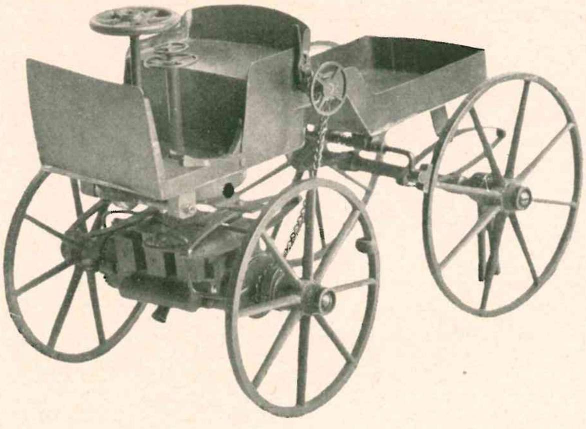
LABELS and Prints can also be protected by registration in the United States Patent Office. Many of the colorful labels that you see on the canned, packaged and bottled goods which line the shelves of our modern drug, grocery and hardware stores are registered. This subject is covered in our Trade Mark book.

Copyrights covering books, dramas, music, pictures, works of art, etc., are registered not in the Patent Office, but in the Copyright Division of the Library of Congress. Write us if you want more information and schedules of fees in connection with this or any of the other subjects discussed on this page.

Facts to Remember When You Write Us . . . . . .

1. Be sure to date your letters and sign your full name and address clearly. Place your name and address both on your letter and also on the upper left-hand corner of the envelope. Remember this: that because you have written your name and address often it may look perfectly clear to you where it would not be so to others. So endeavor to take particular care on this point.
2. If you are replying to a letter we have written you, it is well to mention the date of our letter.
3. Except in unusual cases, models are not needed when application is made for a Patent. All we need from you is a simple sketch and description, as explained on page 10.
4. If you send a drawing, photograph or model, be sure that your name and address are on the package and likewise attached to the drawing, photograph or model itself.
5. Read the instructions on our Evidence of Invention form carefully when you send your disclosure.
6. Never ask us whether some other person has filed an application for a Patent. Our business with each inventor is held in *strictest confidence* between him and ourselves. We NEVER give out information about a client's business with us unless he SPECIFICALLY AUTHORIZES US TO DO SO in writing.
7. In remitting fees, avoid sending currency except by registered mail. Do not enclose money with a parcel post or express package. The best way to send money is by bank draft, check, money order or certified check.
8. It is seldom necessary for inventors to make the trip to Washington so far as Patents are concerned. For many years we have successfully served thousands of clients with devices of every description through the use of Uncle Sam's mails. We give those inventions which are sent to us the same careful attention that we give those brought to us by the inventor in person.
9. If this book fails to give the answer to any particular question you have in mind, write us a letter about it at once. We are more than glad to answer questions. Remember, our success has been founded and built upon SERVICE to inventors.

The Famous Selden Patent



A great many inventors realize handsome returns on their inventions without ever attempting to get into the manufacturing business themselves. Often they sell their inventions for an outright sum of cash; often they license manufacturers to produce their inventions on a royalty basis. Selden, the inventor of an early automobile, collected huge sums—estimated in the millions—in royalties from nearly all the automobile manufacturers for years. The interesting feature about this famous case is that Selden waited until several large automobile companies were well started before he approached them with his patent.

Some Extremely Important Questions and Answers

Q. How can I fully protect my invention?

A. Only by securing a Patent on it; and you must be the first inventor of the invention in this country for the Patent to be valid.

●

Q. Can I protect my invention in any way prior to applying for a Patent, so as to determine first whether it will be a commercial success?

A. If you are the first inventor of the invention in this country, you can protect it to the extent of establishing your right to the Patent, but you must be diligent in completing it or "reducing it to practice" as it is technically termed. The filing of an application for Patent is one way to complete the invention. The only other way is to build and successfully test a full-size working device or machine which embodies the invention.

●

Q. After I file my application, am I safe in exhibiting my invention?

A. Yes, reasonably so. If you are the first inventor and the invention is patentable, you are entitled to the Patent; but it is possible for another, after having derived knowledge of the invention from you, to file a corresponding application and put you to the necessity of proving priority of invention before a Patent can be issued to you.

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Q. Is the Patent granted to the first one to file his application?

A. No, the Patent is granted to the first inventor and if there are two or more claimants for the same patentable invention, the Patent Office institutes an interference proceeding to determine the first inventor before issuing a Patent. There is an advantage in being the first to file application because the burden of proof of priority of invention falls on the later applicants.

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Q. How long does it take to secure a Patent?

A. No fixed time can be specified; the time required may be anywhere from a few weeks to one or more years, depending on the condition of business in the Patent Office and the prosecution necessary to secure the proper kind of claims.

Q. Can the term of a Patent be extended?

A. It cannot, except by a special Act of Congress.

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Q. After I secure a Patent in the United States, can I prevent the use and sale of the invention in the United States if it is sent into this country after being manufactured abroad?

A. Yes, it is as much an infringement of a Patent to use or sell the invention covered thereby as it is to manufacture it, and an invention patented in the United States cannot be manufactured abroad and shipped into the United States for sale or use without infringement of the Patent.

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Q. Who can secure a Patent?

A. The right extends to anyone having a patentable invention, whether a citizen, a foreigner, a minor, a woman, an administrator of a deceased inventor, or a guardian of an insane inventor. But employees of the Patent Office are excluded by law from securing Patents.

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Q. Has my Employer a right to my invention?

A. This is a subject which comes up frequently and can be determined only after consideration of specific circumstances. If you are faced with this problem, we advise that you write us giving complete information regarding the nature of your work and your understanding with your employer. Tell us just what you are employed to do, and what your understanding (if any) is with your employer regarding inventions.

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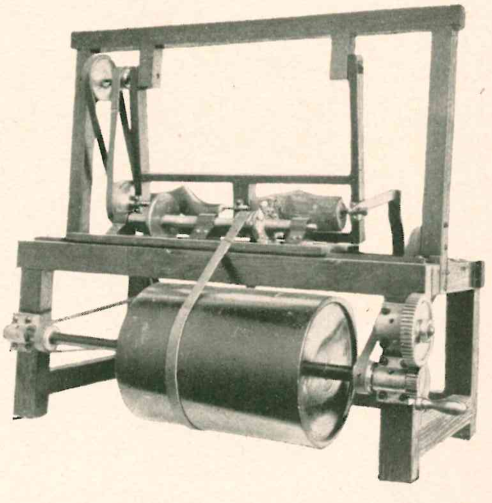
Q. Can I protect my invention without a Patent?

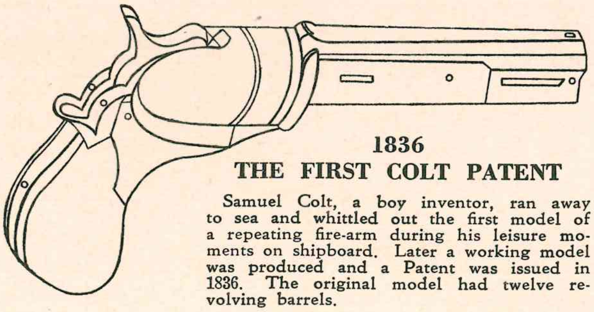
A. No. The only way to secure protection for a new invention is to secure a Patent on it, for as long as it is unpatented, even though you may be entitled to a Patent, anyone may make, use or sell it without your permission. And you can lose your right to a Patent by undue delay in applying for one. There is no such thing as temporary or provisional protection for an invention under our Patent laws.

The First Lathe—*Patented 1820*

At the right is the original model of the first turning-lathe patented in this country. Crude though this model appears to us now it contains important features which are of far-reaching importance in many industries. The fields of tool machinery and precision instruments open up wide opportunities for those skilled in the mechanical crafts and the working of metal. Since this first turning-lathe was patented in 1820 dozens of improvements and adaptations have been made, with the result that the original and simple principles of the machine are now used in countless different ways in many industries.



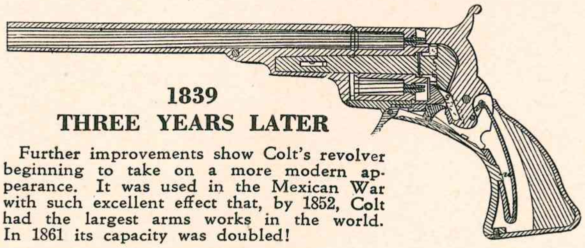
INTERESTING



1836

THE FIRST COLT PATENT

Samuel Colt, a boy inventor, ran away to sea and whittled out the first model of a repeating fire-arm during his leisure moments on shipboard. Later a working model was produced and a Patent was issued in 1836. The original model had twelve revolving barrels.



1839

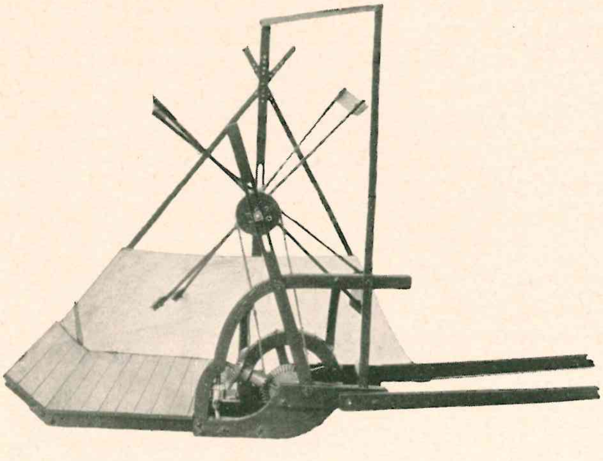
THREE YEARS LATER

Further improvements show Colt's revolver beginning to take on a more modern appearance. It was used in the Mexican War with such excellent effect that, by 1852, Colt had the largest arms works in the world. In 1861 its capacity was doubled!

CYRUS H. McCORMICK

Inventor

Cyrus H. McCormick, who invented the reaper, founded one of the greatest family fortunes in modern times. He and his sons, and those associated with him all became multi-millionaires. Prosperity at large was enormously increased through his inventions.



THE INDIVIDUAL INVENTOR IS STILL SUPREME . . . .

This has often been called "the age of big business," but as applied to the field of invention that is certainly not the case. The vast majority of Patents taken out in this country are for individuals who are working "on their own," and are not connected with the scientific laboratories of big corporations. Furthermore it is interesting to note that the great majority of all important inventions have come from men who before securing their first Patents were unknown. Dr. William Kinnan, recently retired as First Assistant Commissioner of Patents, said in a published interview: "The great corporations have erected marvelous laboratories, equipped with costly apparatus. They have fine-combed the country for recognized talent, accumulated libraries, trained assistants and organized legal staffs, but it is seldom indeed that they come out with one of those startling contrivances that leave us spellbound. The Edisons, Pupins, Wrights, and Bells are still with us. Their names are not flaunted in print nor do they issue accounts of their researches. The shed mechanic, printer's devil, housewife and small town cobbler have yielded almost all the basic inventions of the last twenty-five years."

MUCH OF THE COUNTRY'S WEALTH IS FOUNDED ON PATENTS . . . . .

How far reaching has been the effect of our Patent System is proved by the fact that more than half of our basic wealth is considered to be founded on Patents. Think of practically any of our great industrial enterprises and, delving to their foundations, you will find there the work of the inventor and our Government's appreciation of his efforts in form of a Patent or series of Patents. Consider the railroad, the steamship, the radio, airplanes, automobiles, and the thousand and one other expressions of mechanical and inventive genius that surround you. Consider that all or nearly all of them were protected by Patents and that because of this protection the inventors or the founders of these businesses were able to get started, often in the face of difficulties.

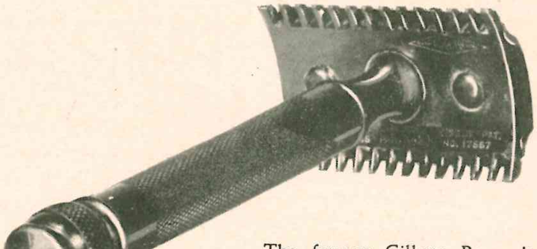
A FARMER INVENTED THE TYPEWRITER . . . A BANK CLERK THE HAND CAMERA

It is interesting to note, too, that many of the most important inventions came from men who were not professionally engaged in the fields to which their inventions related. Indeed a great many of the world's most successful inventions have come from men who did not consider themselves inventors at all. For example, the telegraph was invented by a painter; the typewriter by a farmer; a poet figured out the sewing machine; a school teacher the telephone; a bank clerk the hand camera and a dentist the stock ticker. In the oil field, an obscure prospector figured out a new way to refine petroleum. It was revolutionary and finally made him rich. It would take another book as large as this even to begin to tell you the many interesting stories connected with the origin and development of successful inventions both large and small. They are stories of inspiration, of courage, of resolution—of this nation at its best.

PATENT FACTS

IMPROVEMENTS ON PATENTS ARE OFTEN MORE VALUABLE THAN THE ORIGINAL PATENTED DEVICE . . .

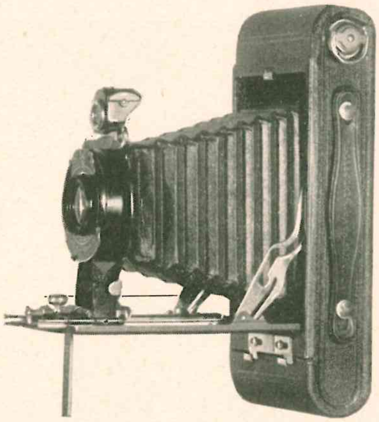
Just as different inventors have successfully made money from improvements in umbrellas, we find similar examples in nearly every other field of invention. In the progress of the railroads alone, hundreds of inventors have found success by improving upon devices already in operation—improved couplings, brakes, and advances in nearly everything used in this great industry have been the subject of Patent protection and the cause of new-found wealth. Every manufacturing company is constantly seeking new ways to improve its products and increase sales. Every man working in a factory or shop has a chance either to improve the product he helps to make or to improve the machinery with which he works. By doing this, thousands have won recognition and reward.



The famous Gillette Razor is an outstanding example of continued improvement. Above is shown a model of this famous razor. Each new improvement has brought increased convenience to thousands of men . . . and, naturally, millions of dollars to this great company.

PATENTS AS AN INVESTMENT . . .

Many men have come into great wealth by rendering the necessary financial and business assistance to inventors. Indeed, Patents have been—in many cases—the most highly remunerative investments. Those who backed Alexander Graham Bell, for example, had, by the year 1908, taken out $2,000 for every $1.00 invested! The associates of Cyrus McCormick also reaped rich dividends, as did those who "got in on the ground floor" of the Dunlap Pneumatic Tire Company when that industry was in its infancy. If an inventor's idea is sound and his Patent good, he can usually find business men who will back him, provided they can see real commercial possibilities in the invention.



One of the models of the famous, internationally known Eastman Kodaks.

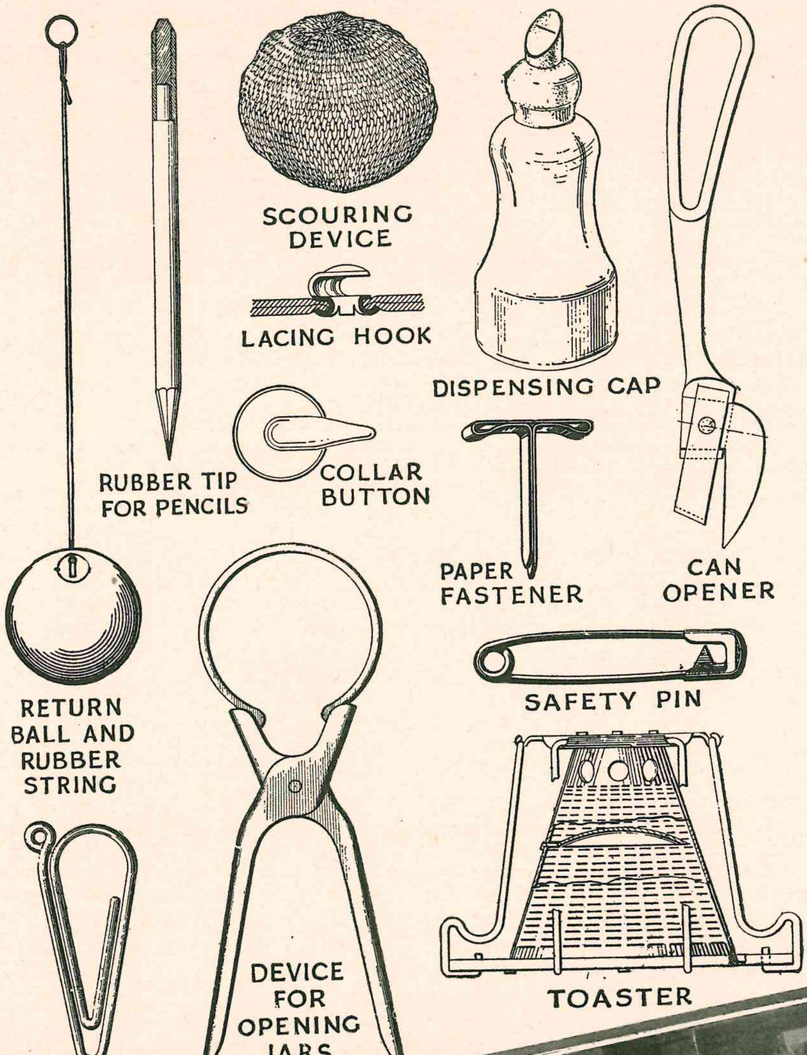
WOMEN AS INVENTORS

Another interesting angle to our inventive progress is the part women have played. It has been an increasingly important part. For a number of years no patents were granted to women. Finally, in 1809, Mary Keis secured a Patent for a method of weaving straw and silk thread. In 1815 a Mary Brush patented an improved corset design, while in 1819 Miss Sophie Usher patented a compound of violet water and cream of tartar as a toilet lotion.

Since those early days, however, women have entered a wide range of fields of invention. While it is true that most of their inventions have related to articles of feminine use, there are many exceptions. Patents have been granted to women for: Adding machine, windmill, horseshoe, agricultural implements, fire escape, pneumatic tire, commutator brush, street car, steam boiler, varnish, danger signal, rotary engine, improvements in stoves and other mechanical devices too numerous to mention.

Most women inventors have taken out only one patent, but again there are exceptions. A notable one is Miss Beulah Louise Henry, known as the "Lady Edison." She is said to have made quite a fortune out of her inventions, which total over fifty in number, among them being: A telephone call list, ice cream freezer, pencil, electric fan shield, rubber reducing garment, a machine to make the proper cut in rubber, "Kiddie Klock" for teaching time to youngsters, and a game called "Cross Country," which teaches its players to travel across the United States by 24 of its leading railroads.

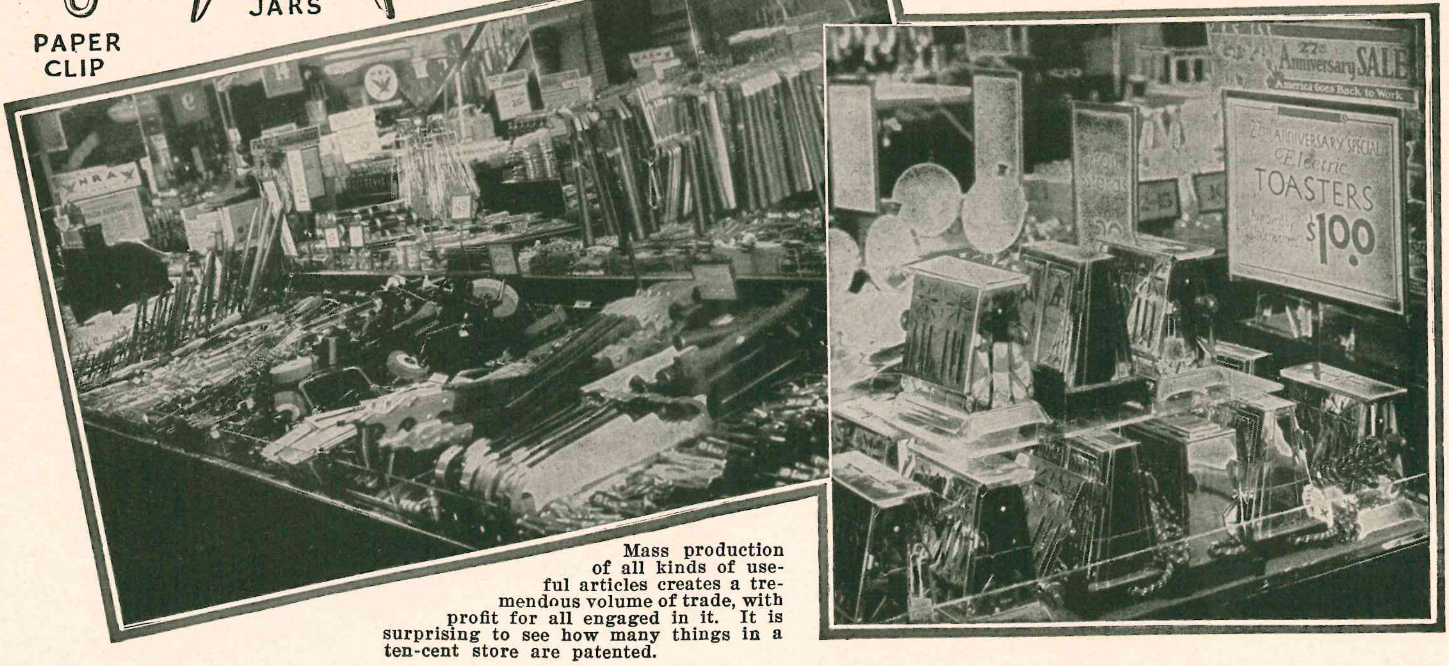
Little Ideas May Have Big



TREMENDOUS and complicated machines are not necessarily the greatest money-makers. Instead, half a dozen fortunes have been made by twisting a piece of wire into half a dozen shapes: The paper clip made a fortune. The safety pin has paid enormous dividends. A Middle-Westerner made thousands by simply putting the "hump" into a hairpin, while another man made a fortune by putting "crinkles" into them. Even the common staple-type paper fastener has been a great commercial success.

It is interesting to note that some of the greatest inventions were simply the result of "hunches" of men who did not consider themselves inventors. Hyman Lipman put a rubber tip on a pencil and his patent is said to have sold outright for $100,000. Janney invented the automatic coupler for railway cars while gazing at the position of his clasped hands. Lyman Blake invented the steam presser for tailor shops when he hurt his shoulder and couldn't use a sad iron.

Simple improvements in well-known devices have also been highly successful. A Washington woman made a great deal of money from an improved baby bib. The man who patented the idea of taper-

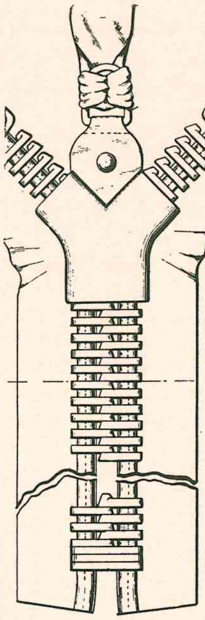


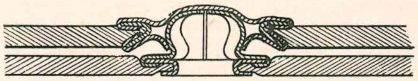
Mass production of all kinds of useful articles creates a tremendous volume of trade, with profit for all engaged in it. It is surprising to see how many things in a ten-cent store are patented.

Commercial Possibilities

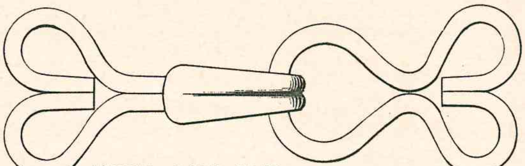
ing a candle at the base in order to make it fit firmly in its socket later founded the largest candle factory in the world. The constant development of the umbrella has brought profit to a number of inventors: Samuel Fox, alone, who first conceived the idea of grooving the ribs of the umbrella earned a substantial fortune. The man who conceived the idea of putting cork pads on the nose-pieces of eyeglasses enjoyed very attractive royalties; and the simple idea of making a lemon-squeezer of glass is said to have been worth about half a million dollars.

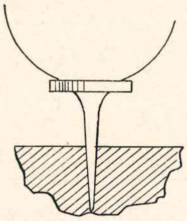
Some other ideas are illustrated here. The crown cap for bottles is now the basis of a large industry. Wooden golf tees are sold by the million. Hooks and eyes by the tens of millions. And every year many new devices for the home, for sports or for personal use are patented and manufactured. Just to walk through a five-and-ten-cent store is a real inventive inspiration; for the counters are loaded with hundreds of cheap and useful devices—priced within the reach of all, but manufactured in such enormous quantities that they richly reward the factory workers, the investors and the inventors.

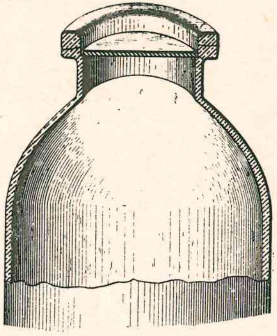

FASTENER

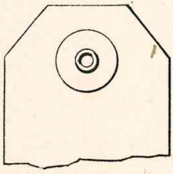

CLOVE FASTENER

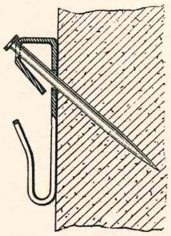
HAIR CLIP

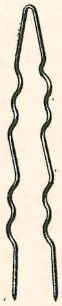

HOOK AND EYE

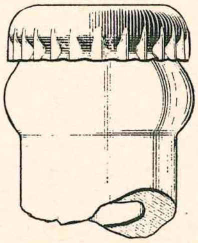

WOODEN GOLF TEE

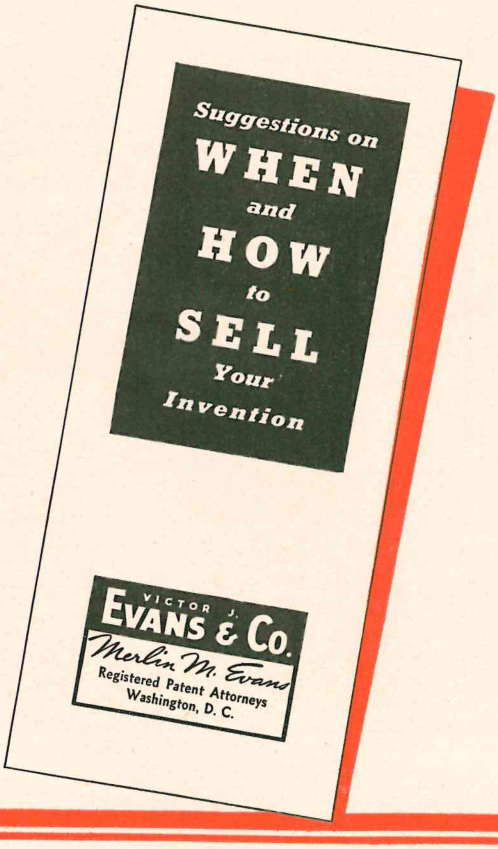

MILK BOTTLE CAP


DENNISON TAG


PICTURE HANGER


HAIR PIN


METAL BOTTLE CAP


Suggestions on
WHEN
and
HOW
to
SELL
Your
Invention

VICTOR J.
EVANS & Co.
Merlin M. Evans
Registered Patent Attorneys
Washington, D. C.

Valuable Suggestions for the Inventor

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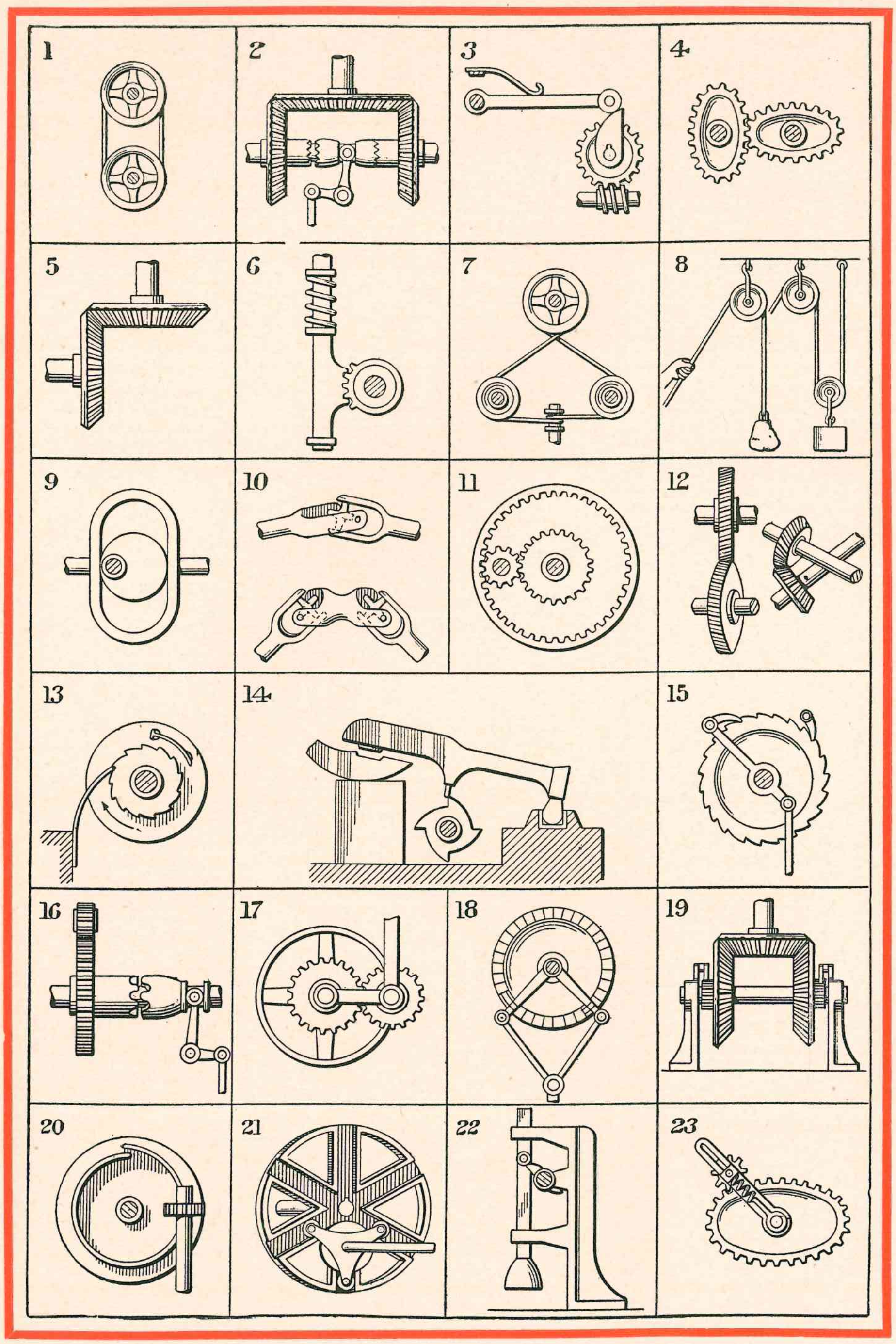
Mechanical Movements



1. Pulleys with a belt passing thereover.

2. The ordinary sliding clutch and pinions.

3. Means for imparting a jumping motion to a horizontal arm. A cam secured to a cog-wheel alternately lifts and drops said arm.

4. Elliptical spur-gears for securing variable speed.

5. Beveled gears.

6. Means for imparting an alternate rectilinear motion to a rack-rod by a continuously rotated mutilated gear.

7. Means for transmitting motion from one shaft to another, said shafts being in the same plane but at right angles to each other.

8. Pulleys for lifting weights.

9. An eccentric upon a revolving shaft adapted to impart a reciprocating movement to a yoke strap.

10. Two forms of universal joints.

11. Differential gears. The inner and outer gears move in opposite directions at different speeds.

12. Different kinds of gear for transmitting rotary motion from one shaft to another arranged obliquely thereto.

13. Means for imparting a partial revolution to a ratchet-wheel at the completion of each revolution of the main wheel.

14. A tilt hammer. The wiper-wheel lifts the hammer four times each revolution.

15. Means whereby a reciprocating rectilinear motion of a vertical rod transmits an intermittent circular motion to a toothed wheel.

16. An ordinary sliding clutch and pinions.

17. Sun and planet motion. The outer gear is fixed to the connecting link and moves around the axis of the flywheel.

18. Means whereby the reciprocating motion of a jointed rod produces an almost continuous rotary movement of the ratchet-face wheel.

19. Gearing for transmitting a continuous rotary motion to a vertical shaft from a horizontal shaft, by the alternate revolution of gears upon said horizontal shaft. These gears are loose upon their shaft and have ratchets which are engaged by pawls fixed to the shaft.

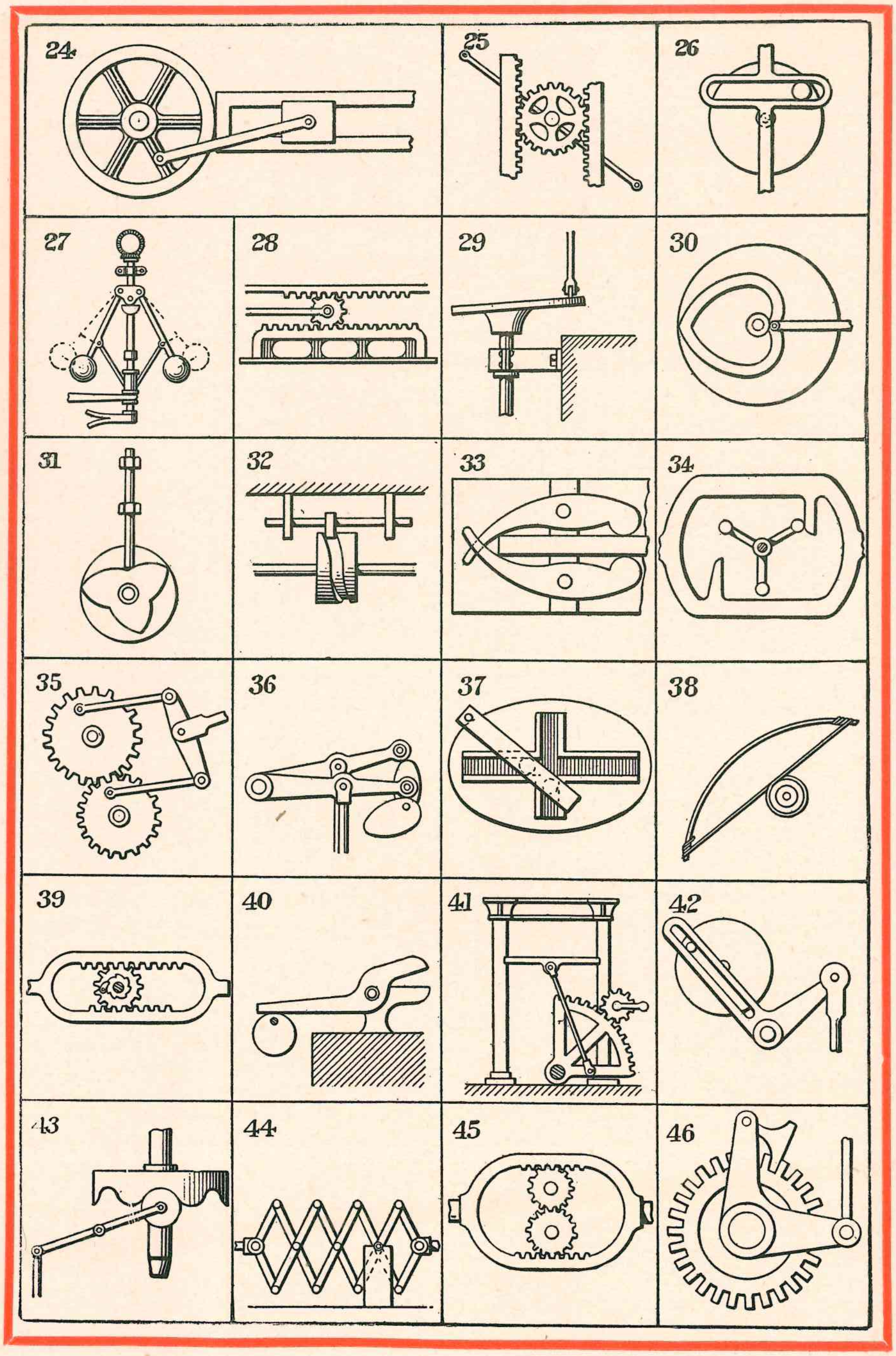
20. Means for transmitting rotary motion from one shaft to another at right angles thereto.

21. Multiple gearing. The triangular wheel drives the large one.

22. A simple ore stamper or pulverizer. The plunger is raised and dropped twice for each revolution of the shaft.

23. Variable rotary motion produced by uniform rotary motion.

Mechanical Movements



24. Ordinary crank motion.

25. Air pump; piston motion. The racks are moved in opposite directions by the revolution of the gear.

26. Crank motion. The wrist-pin upon the disk works within the slotted yoke.

27. Centrifugal governor for steam engines, etc.

28. A lower fixed rack having a gear mounted thereon and meshing with an upper movable rack. As the pitman secured to the gear reciprocates said gear revolves and imparts a movement to the upper rack which is double that of the gear.

29. Means for imparting a reciprocating rectilinear motion to an upright rod by rotating an upright shaft having an oblique disk secured thereto.

30. A heart-shaped groove engaged by a lever is adapted to impart an irregular swinging motion to said lever.

31. A triple cam adapted to lift the rod three times at each revolution of the disk to which said cam is secured.

32. Means for producing a uniform reciprocating rectilinear motion by the rotary motion of a grooved cam.

33. A carpenter's benchclamp. By pressing a strip against the crossed ends of the dogs, the rounded heads thereof will clamp said strip.

34. Means whereby a reciprocating motion is imparted to a frame by a continuously rotating shaft. This shaft has three wipers adapted to contact with inwardly extending arms within the frame.

35. Means whereby the rotation of two spur gears having crank wrists produces variable alternating traverse of a horizontal bar.

36. Means for converting uniform circular motion into alternating motion. Cams are mounted upon a revolving shaft and alternately lift and drop levers to which are attached rods.

37. An ellipsograph. By attaching a pencil or other instrument to the cross-bar ellipses may be readily drawn. Studs upon the bar engage the grooves.

38. A fiddle drill. A strap is secured between the ends of a bow and circles a shaft or drill which is revolved by the back and forth motion of the bow.

39. A crank substitute. Two loose pinions with reverse are attached to the shaft, with pawls on the pinion ratchets. Each rack meshes with the reverse pinion for continual motion of the shaft.

40. Metal shears. The arm of the moving blade is raised and lowered by the revolution of the cam.

41. A vertically movable presser platen. This platen is secured by a rod to a toothed sector pivoted within a frame and which receives motion from a small pinion meshing therewith.

42. Means for converting circular motion into variable alternating rectilinear motion. A wrist-pin upon a revolving disk works within a slotted lever.

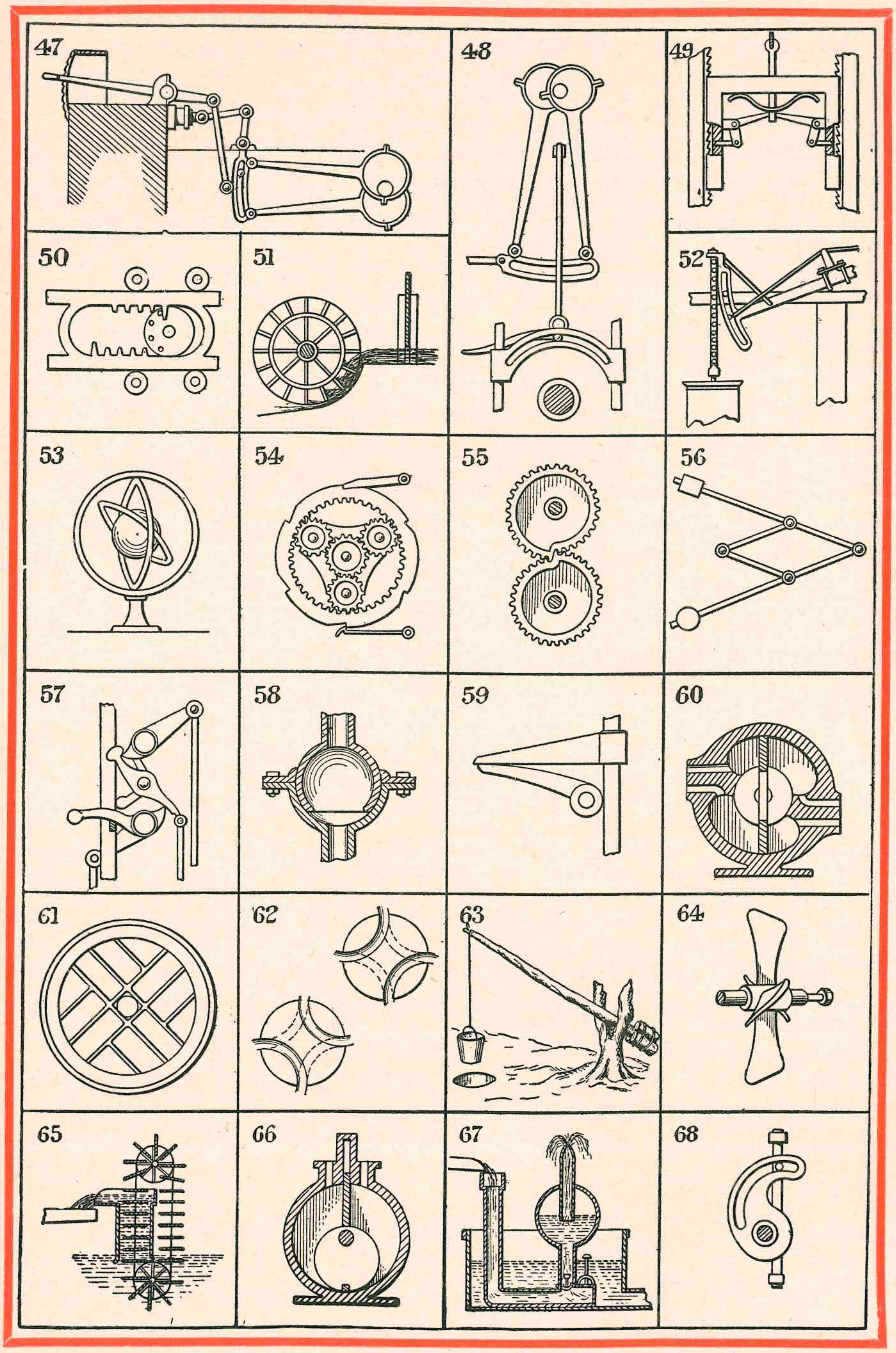
43. Means for converting circular into rectilinear motion. A waved wheel mounted upon a rotary shaft rocks a lever upon its fulcrum.

44. "Lazy Tongs." A system of crossed levers pivoted together by which the amount of a rectilinear motion is increased by the proportional number of sections in the tongs.

45. A rack adapted to receive rectilinear motion by the rotary motion of toothed wheels meshing therewith.

46. Means for converting reciprocating rectilinear motion into intermittent circular motion.

Mechanical Movements



47. Link motion for locomotives. The slotted link is moved up and down over the wrist pin block by the lever and connecting rod; the lever, locking in the tooth-bed sector allowing for a close connection to the valve stem by a lever and short connecting rod.

48. Valve motion and reversing gear. The slotted link receives a rocking motion from the eccentrics and rods, and is thrown from its center either way for forward or back motion of the engine by the lever secured thereto.

49. Safety stop for elevators. When the cable breaks, the bow spring will force the plungers secured to the bell-crank levers outward into engagement with the racks.

50. Mangle rack, guided by rollers and driven by a lantern half-pinion. The long teeth in the rack act as guides to insure a tooth mesh at the ends of each motion.

51. Breast wheel. The power of this wheel equals about 40 per cent of the value of the waterfall flowing through the gate.

52. Single acting pumping beam. Parallel motion is received from a sector beam. The cylinder is open and the piston is lifted by the weight of the pump rods on the other end of the beam. Movement of the piston is reversed at atmospheric pressure.

53. A gyroscope or rotascope. The outer ring is fixed to a stand. The intermediate ring is pivoted vertically therein. The inner ring is pivoted in the intermediate ring at right angles thereto, and the globe is pivoted at right angles to the inner ring.

54. Wheel work used in the base of a capstan. The central gear is fast to the shaft. The intermediate pinions are loosely mounted upon a frame secured to the drum. The gear ratchet ring runs free on the shaft.

55. Scroll gears. For increasing or decreasing the speed gradually during one revolution.

56. Pantograph. For reducing or enlarging copies of drawings. The free ends of the arms are provided with drawing instruments which are adjustable. The point of connection between the two intermediate arms is fixed.

57. Diagonal catch and hand gear used in large blowing pumping engines.

58. Ball and socket tube joint.

59. Toe and lifter for working puppet valves in steam engines. The lower arm or toes is secured to a rock shaft operated from the engine shaft and is adapted to raise and lower the lift or upper arm which is secured to the valve rod.

60. A rotary engine. This engine has two abutments and two inlet and exhaust ports.

61. A horsepower tread wheel. The horse is placed below the shaft and between the spokes which are arranged at the sides of the wheel.

62. A four-way cock.

63. A swape, or New England sweep. The weighted end of the pole overbalances the bucket so as to divide the labor of lifting the water.

64. Ordinary screw propeller.

65. Chain pump.

66. Rotary engine, in its simplest form.

67. Hydraulic ram. The "Montgolfier" idea for a fountain supplied by a water ram.

68. Means whereby rectilinear motion of variable velocity is imparted to a vertical bar by turning a shaft having a curved slotted arm thereto.

Mechanical Movements

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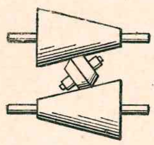

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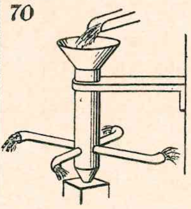

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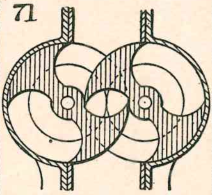

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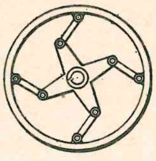

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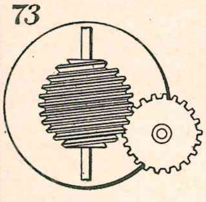

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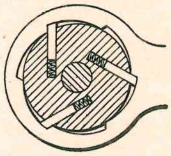

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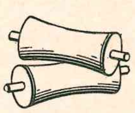

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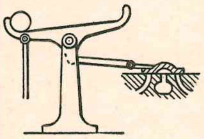

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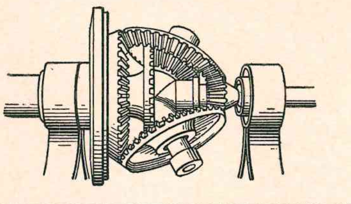

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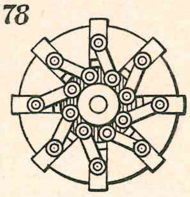

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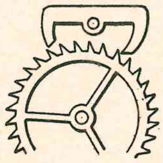

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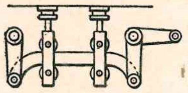

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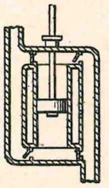

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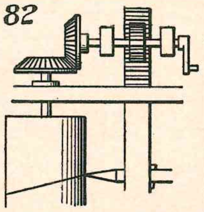

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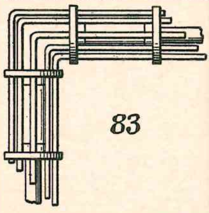

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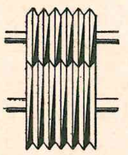

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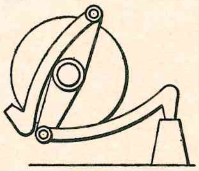

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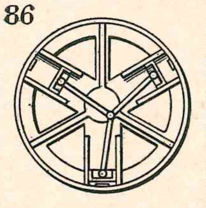

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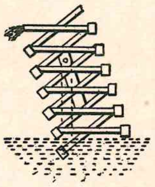

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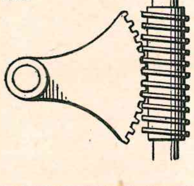

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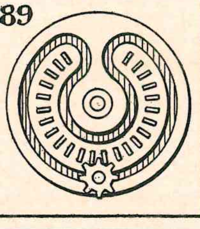

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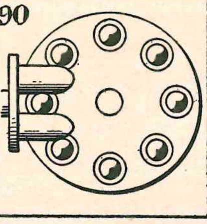

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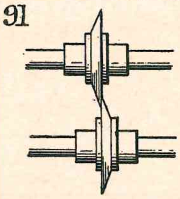


69. Friction gear. Variable speed is obtained from the pair of cone pulleys, one of which is the driver. The intermediate double faced friction pinion is moved from one end to other of the cones.

70. Barker wheel. The reaction of the water escaping from the tangential orifices at the ends of the arms under the pressure of the waterhead in the hollow shaft gives impulse to the wheel.

71. "Root" rotary blower. The extended surface of the periphery of the wheels allows them to run loosely in the shell without friction, and with very small loss by air leakage.

72. An elastic wheel having a steel spring tire with jointed spokes.

73. Globoid spiral gear wheel. The revolution of the globoid gear gives a variety of differential motions to the spur gear, as it swings between the limits practicable with the globoid teeth.

74. Ratchet head with spring pawls.

75. Means for transmitting rotary motion to an oblique shaft by means of contracting drums having concave surfaces.

76. A reversing movement for a pump valve. The piston rod trip carries the ball frame beyond the level, when the ball rolls across and completes the valve throw.

77. Multiple speed gear in line of shaft. The small intermediate gear is secured to the small shaft. The central intermediate gear is secured to the large shaft, while the large intermediate or end gear is fixed to the bearing. The side beveled pinions are removable with the large shaft. With this device speed may be increased or decreased on a continuous line of shafting according to the relative number of teeth in the different gears.

78. Toggle joint cam movement, for throwing out a number of grips at once, by the movement of the jointed ring within the disk.

79. Anchor escapement for clocks.

80. Cam bar valve movement. The horizontal movement of the cam bar by the bell crank lever alternately moves the two valves.

81. Double acting lift and force pump.

82. Rack and pinion movement for tracing spiral grooves on a cylinder.

83. Right angle shaft coupling. A number of right angle steel rods move freely in perforated guide flanges on the ends of shafts that are arranged at right angles. In this manner motion may be imparted from one shaft to the other.

84. Grooved friction gearing.

85. Revolving rapid blow hammer.

86. Rotary multi-cylinder engine. The cylinders revolve with the flywheel and the crank to which the pistons are secured is eccentric thereto.

87. Pendulum water lift.

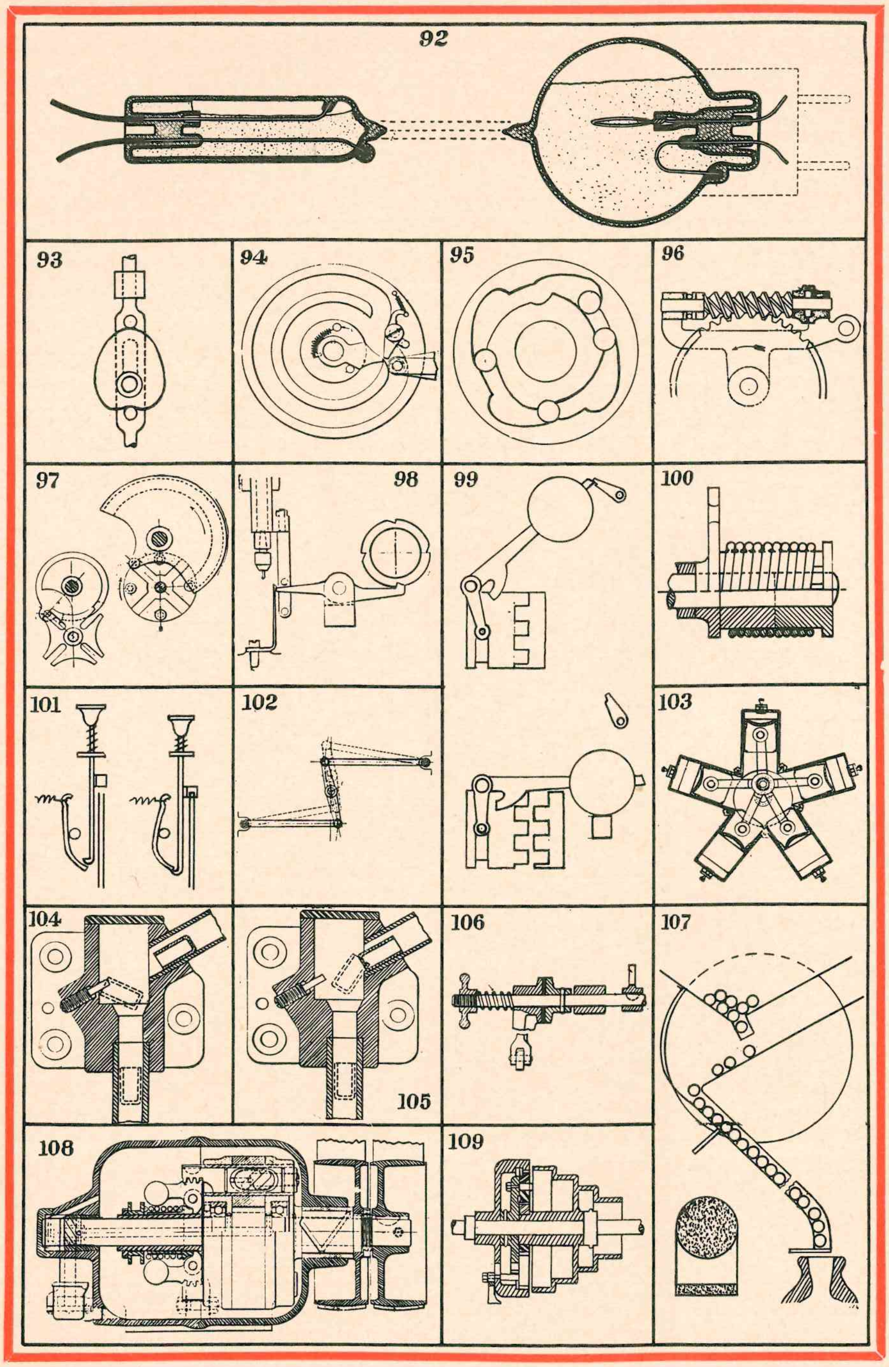
88. Means whereby rectilinear vibrating motion may be imparted to a spindle having an endless worm gear, by a spur-gear sector.

89. Mangle wheel with equal motion forward and return. The end of the shaft of the pinion is slidably mounted within the groove and retains said pinion in mesh.

90. Tin-tooth wheel and pinion.

91. Disk shears.

Mechanical Movements



92. Photo-Electric Tube—"Electric Eye". These delicate light-sensitive tubes are now coming into widespread use, counting manufactured articles on production lines, automatically opening doors, operating signalling systems, etc. As shown the Anode and Cathode tubes are focused and upon interruption of the light beam a circuit is closed or opened by which control relays are actuated.

93. Plate Cam Arranged for Positive Motion. This construction employs two rollers which operate upon opposite sides of the cam to impart a positive shifting motion to the shaft in opposite directions.

94. Double-Track Cam. The cam has two concentric grooves, to and from which the roller is alternately transferred but in between changes the roller "dwells" at each end of its stroke.

95. Silent Ratchet of Ball or Roller Type. Power is transmitted gripping the balls or rollers between the cam surfaces. Gravity alone being relied upon to bring the balls into place.

96. Friction Ratchet of Worm Pawl Type. When the forked lever is operated in the direction of the arrow, the thrust is against the plain bearing and the frictional resistance prevents the worm from revolving: hence the worm acts as a ratchet and turns the worm wheel.

97. Geneva Wheel for Intermittent Motion. Geneva wheels are frequently used on machine tools for indexing or rotating some part of the machine through a fractional part of a revolution. The motion picture industry also uses these wheels on their projecting machines.

98. Automatic Tripping Clutch. This arrangement is intended for a special drilling fixture when tapping to certain depths and for various similar purposes.

99. Releasing Mechanism or Trip in which a falling weight disengages a toothed clutch. This design enables disengagement of the clutch at a predetermined point and so quickly as to eliminate binding and wear on the teeth.

100. Friction Ratchet of Coil Spring Type. This spring ratchet depends for its drive upon its gripping action on both the driver and driven member and neither end of the spring is fastened.

101. Adding Machine Key Control. With this arrangement, if an attempt were made to depress two keys successively the releasing of one by the downward action of the other would eliminate a possible error.

102. The James Watt Straight-line Motion. Mechanisms of this type were used on steam engines and pumps of early designs to guide the piston rods, because machine tools had not been developed for planning accurate guides.

103. Cylinders which revolve about a stationary crank. This structure illustrates the general arrangement of an early type of airplane motor. The cylinders revolve about the stationary crank, and the pistons move in and out relative to the cylinders the same as though the cylinders were stationary and the crank revolved.

104-105. Feeding shells with closed ends foremost. The two illustrations of the mechanism show how the material or work is finally discharged uniformly irrespective of the manner in which same was introduced to the machine.

106. Friction clutch which may be applied as a Safety device to carrier mechanisms. The handwheel is employed to produce the desired friction to a degree so as to permit the transmission of power under normal conditions but the clutch faces should slip when undue resistance is met.

107. Feeding Mechanism for Plain Flat Disks. As shown the disks are counted between the two gate valves in the discharge chute and as the receptacles are fed beneath the chute the upper valve is closed and the lower opened.

108. Hydraulically Controlled Transmission. This transmission is so designed that the speed of the driven pulley may be varied from zero up to the full speed of the driving pulley, so that this mechanism may be utilized as a clutch or for changing gear speeds.

109. Cone Pulley and Planetary Gearing. When the lock pin is engaged, the internal gear is prevented from turning whereby a slower speed is transmitted to the spindle than is obtained with the direct drive. This design, which has been applied to some upright drilling machines is sometimes known as a "differential back-gear".

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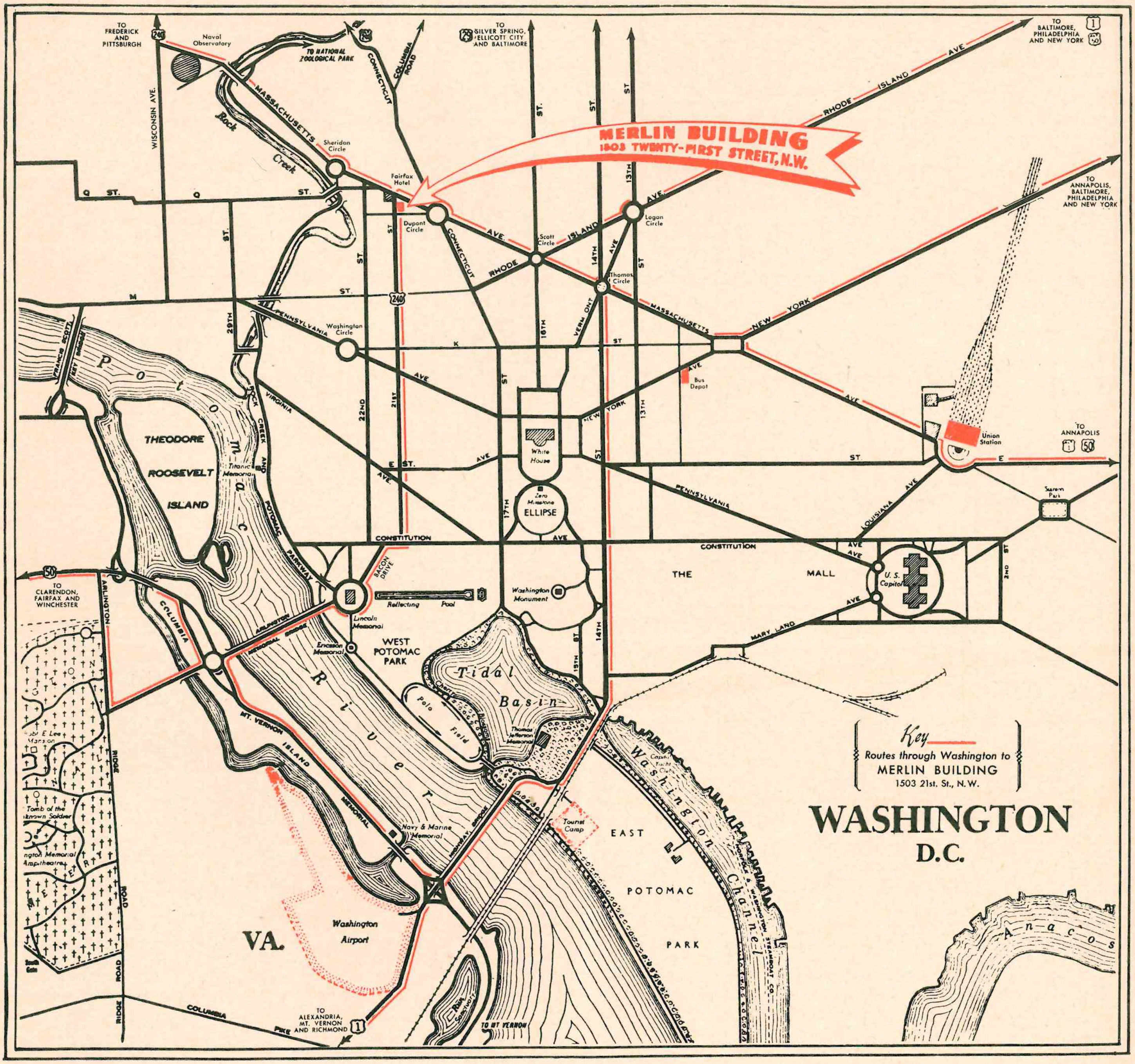

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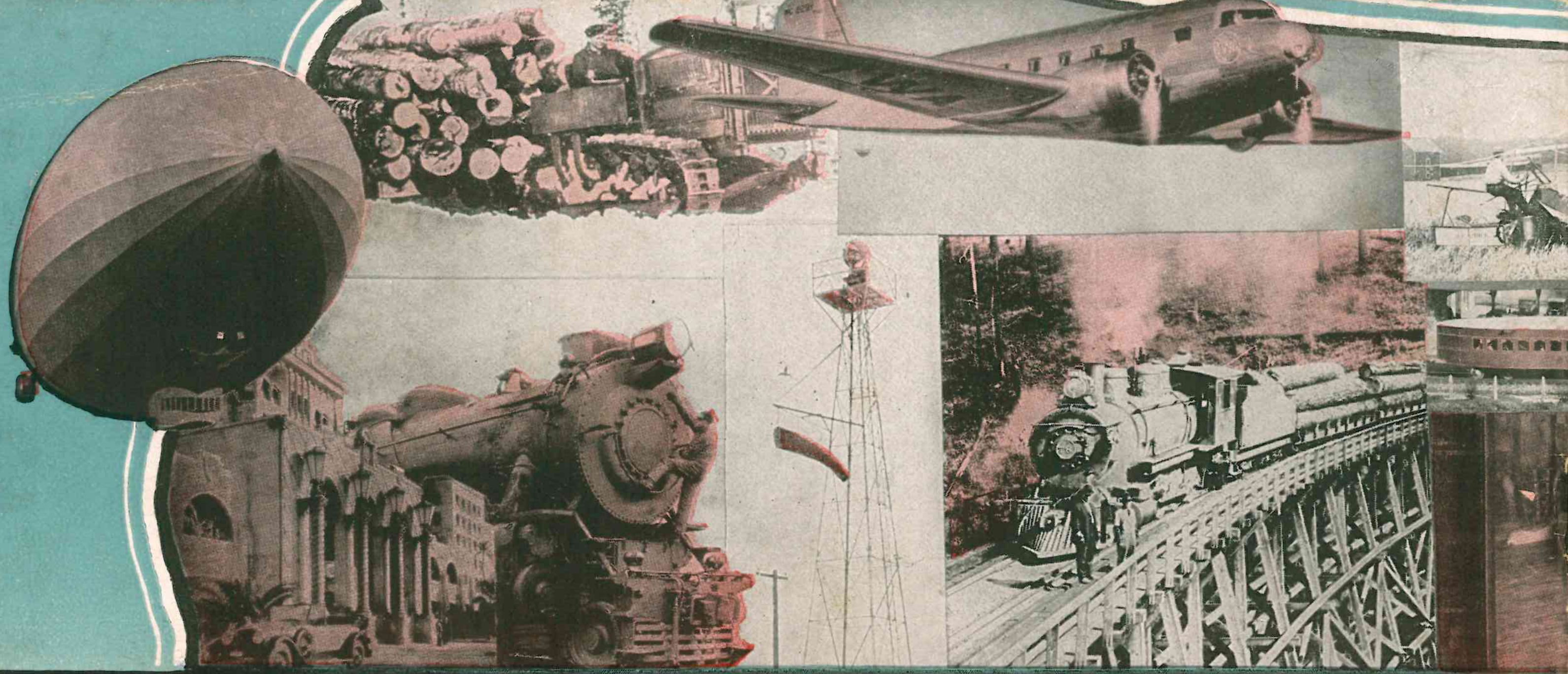

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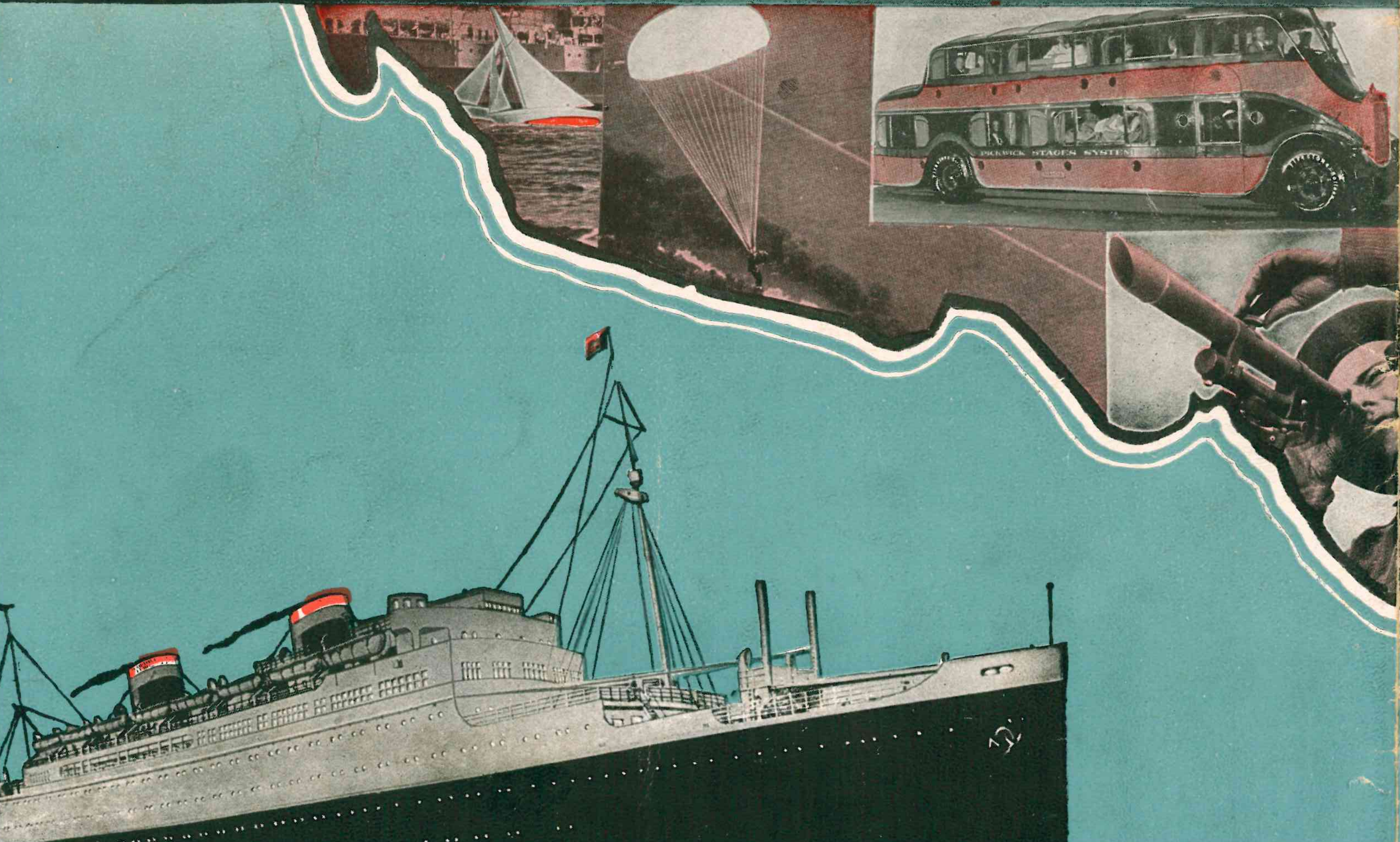

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March 21, 1946

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